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REPORT  
OF THE  
DIRECTOR OF THE MINT  
UPON THE  
PRODUCTION  
OF THE  
PRECIOUS METALS IN THE UNITED STATES  
DURING THE  
CALENDAR YEAR 1889.



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1890.



# LETTER

FROM

## THE SECRETARY OF THE TREASURY,

TRANSMITTING TO CONGRESS

*The report of the Director of the Mint on the production of gold and silver  
in the United States for the calendar year 1889.*

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TREASURY DEPARTMENT,  
OFFICE OF THE SECRETARY,  
*Washington, D. C., April 28, 1890.*

SIR: I have the honor to transmit herewith the report of the Director of the Mint upon the production of the precious metals in the United States for the calendar year 1889.

Respectfully, yours,

WILLIAM WINDOM,  
*Secretary.*

Hon. THOMAS B. REED,  
*Speaker of the House of Representatives.*



## LETTER OF TRANSMITTAL.

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TREASURY DEPARTMENT,  
BUREAU OF THE MINT,  
*Washington, D. C., April 28, 1890.*

SIR : I have the honor to hand you herewith, for transmittal to Congress, a report on the production of the precious metals in the United States, for the calendar year 1889.

Respectfully, yours,

EDWARD O. LEECH,  
*Director of the Mint.*

Hon. WILLIAM WINDOM,  
*Secretary of the Treasury.*



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PART I.

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GENERAL REPORT.

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## GENERAL REPORT.

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### *PRODUCTION OF GOLD IN THE UNITED STATES.*

Notwithstanding the absence of any notable discoveries of gold-producing properties in the United States during the calendar year 1889, the mines already developed, with others of minor importance discovered during the year, yielded a product of gold approximating the annual product of recent years.

The product of gold from our own mines is susceptible of very accurate determination, for the reason that, with the exception of the small amount which enters directly into consumption as jewelry, the entire product finds its way very promptly to the institutions of the Mint Service either in crude bullion directly from the mines and mills, or in the shape of fine gold bars, the output of private refineries in the United States.

The mints of the United States offer complete facilities to producers of gold to realize promptly the full value of their product. At the large acid refineries connected with them, the base metals are eliminated and the precious metals are parted and refined at an expense to the producer of only the actual cost to the Government of the operations. The coinage of gold is free,—no charge to depositors—while the manufacture of fine bars bearing the attestation of the Government as to weight and fineness is made at a trifling cost. The establishment of Government assay offices in gold-producing sections of the country, at which the full mint value is paid depositors of gold bullion immediately upon the determination by chemical test of the quantity of the precious metals contained in their deposits (the Government paying the cost of transportation to the mint at Philadelphia for coinage), naturally tends to attract to them the gold produced in those localities.

In proof of this, it may be mentioned that of the gold produced in the United States during the last calendar year, 689,658 fine ounces (over two-fifths of the entire product) were deposited in the form of unrefined bullion at Government institutions, while of the product of fine gold bars from private refineries, amounting in all to 911,676 fine ounces, 856,361 ounces were deposited at the mint at San Francisco and the assay office at New York.

The amount of crude gold imported into the United States is very inconsiderable as compared with that of silver, and, with the exception of what comes from Mexico and the British Possessions in North America, is contained in, and extracted from, silver products.

From an examination of all the returns and data at the disposal of this Bureau, the product of gold from the mines of the United States during the calendar year 1889, is estimated to have been 1,587,000 fine ounces, of the value of \$32,800,000.

The value of the gold bullion of domestic production deposited at the mints and assay offices of the United States during the year was \$31,959,047, containing 1,546,019 troy ounces of fine gold.

The value of the gold bullion of domestic production exported from the United States, exclusive of bars bearing the stamp of a United States mint or assay office, was \$1,116,517, corresponding to 54,012 fine ounces of gold.

In addition to the gold of domestic production deposited at the mints and that exported, private works in the United States engaged in the business of making bars for manufacturers and jewelers, reported to this Bureau that they used during the year, in the preparation of gold bars for industrial use, domestic gold bullion, other than bars bearing the stamp of a United States mint or assay office, amounting to 50,009 fine ounces, of the value of \$1,033,700.

The total domestic product accounted for by deposits at Government institutions, by export, and by direct consumption in the arts, was, therefore, 1,650,040 fine ounces, of the value of \$34,109,264.

Embraced, however, in the gold of domestic production deposited at the mints, is the product of fine gold bars prepared by the large private refineries in the United States. These refineries have reported to this Bureau that the gold bars prepared by them, during the year, and deposited at the mints, contained 63,811 fine ounces of gold derived from foreign ores and bullion.

Deducting this, the reported product of gold from the mines of the United States aggregated 1,586,229 fine ounces, of the value of \$32,790,265.

The following table exhibits the data upon which the estimate of the gold product is based :

ESTIMATE OF THE GOLD PRODUCT OF THE MINES OF THE UNITED STATES, 1889.	
Sources.	Fine ounces.
Bullion of domestic production deposited at mints and assay offices .....	1, 546, 019
Bullion of domestic production (other than United States mint or assay office bars) exported from the United States.....	54, 012
Bullion of domestic production reported by twenty-six private refineries in the United States as having been made into bars for manufacturers and jewelers .....	50, 009
Total .....	1, 650, 040
Deduct :	
Foreign bullion reported by private refineries in the United States, as contained in their product of fine gold bars deposited at mints and assay offices and there classified as of domestic production.....	63, 811
Domestic product for 1889 .....	1, 586, 229



As confirmatory of the foregoing estimate of the gold product of the United States, the following table for the same year, based upon the work of private and Government refineries, is presented:

ESTIMATE OF THE GOLD PRODUCT OF THE MINES OF THE UNITED STATES, 1889.	
Sources.	Fine ounces.
Domestic product of fine gold bars reported by five private refineries in the United States, being all who manufacture fine gold bars .....	847, 865
Unrefined gold of domestic production deposited at mints and assay offices.....	689, 658
Gold of domestic production reported by private works in the United States as having been made into bars for manufacturers and jewelers .....	50, 009
Domestic product.....	1, 587, 532

The domestic product of gold as exhibited in the above estimate was 1,587,532 fine ounces of the value of \$32,817,190.

As a mean between these two estimates, the product has been placed at **1,587,000** fine ounces of the value of **\$32,800,000**.

Doubtless some slight product may have escaped the researches of this Bureau. It is a well-known fact that many gold nuggets and curious specimens of native gold, as well as much gold quartz, mined in the United States, are annually made into articles of jewelry and ornamentation. As the value of the product so used is not a matter of record, and moreover adds nothing to the supply for monetary purposes, no allowance, by way of estimate, has been made for it.

The product of gold from the mines of the United States has not varied materially, from year to year, during the last nine years, having been slightly less last year than in the preceding year, when it was valued at \$33,175,000.

The value of the gold produced from the mines of the United States, as estimated annually by this Bureau, for the last decade, is presented in the following table:

PRODUCTION OF GOLD FROM MINES IN THE UNITED STATES SINCE 1880.

Calendar years.	Fine ounces.	Value.	Calendar years.	Fine ounces.	Value.
1880.....	1, 741, 500	\$36, 000, 000	1885.....	1, 538, 325	\$31, 800, 000
1881.....	1, 678, 612	34, 700, 000	1886.....	1, 693, 125	35, 000, 000
1882.....	1, 572, 187	32, 500, 000	1887.....	1, 596, 375	33, 000, 000
1883.....	1, 451, 250	30, 000, 000	1888.....	1, 604, 841	33, 175, 000
1884.....	1, 489, 950	30, 800, 000	1889.....	1, 587, 000	32, 800, 000

#### PRODUCTION OF SILVER IN THE UNITED STATES.

The product of silver from the mines of the United States is not susceptible of as accurate determination as the product of gold. As the mints of the United States are not open to the free coinage of silver, as of gold, the product of our mines which finds its way to Government institutions consists of Treasury purchases of silver for the manda-

tory coinage of the silver dollar, silver parted from deposits of gold, and silver deposited for manufacture into fine bars with Government stamp as to weight and purity.

Moreover, Government refineries do not offer the same advantages to producers of silver as private works, for the reason that no allowance is made at the former for the value of the base metals contained in deposits, while at private works many of the base metals commonly associated with silver in nature, such as lead and copper, are paid for and constitute a very important and valuable component. Indeed, it may be said that considerably more than one-half of all the silver produced is extracted from lead ores, while very many copper ores contain appreciable quantities of silver which is extracted at a profit.

The difficulty, however, in ascertaining the exact product of silver from our own mines does not lie so much in the complex nature of silver ores as it does in the separation from our own product of the silver contained in foreign ores and base bullion reduced and refined in the United States.

Aside from silver bars shipped to the United States for refining, the great mass of the silver imported into this country is contained in silver-lead ores, valuable for fluxing purposes, carrying a large percentage of metallic lead and small quantities of silver to the ton. These foreign products, which began to come to the United States, principally from Mexico, in 1885, have, since the extension of railways into Mexico, largely increased in quantity. To ascertain the quantity of silver extracted from these products is exceedingly difficult, and the effort to do so has entailed considerable labor on this Bureau and has taxed to the utmost the courtesy of managers and officers of private refineries in this country.

Another fruitful source of difficulty lies in the different values given to silver, occasioned largely by the fluctuations in the commercial price. As the value only, and not the quantity, of silver imported and exported is registered at the custom-houses, the quantity actually brought into and taken out of the country must be somewhat uncertain. Any estimate of the product of silver from our own mines, as distinguished from the product of our smelting and refining works, is at the best but a close approximation.

All the reports and data in the possession of this Bureau indicate an increased product of silver from our mines for the calendar year 1889. The amount of our own product was approximately 50,000,000 fine ounces, of the commercial value, at the average price of silver during the calendar year (\$0.93½ per ounce fine) of \$46,750,000, and of the coining value in silver dollars of \$64,646,464, against an estimated product for the calendar year 1888 of 45,783,632 fine ounces, of the commercial value of \$43,020,000, and of the coining value of \$59,195,000, an increase over 1888 of about 4,216,368 fine ounces of the commercial value of \$3,730,000.

The coining value of the silver bullion deposited at the mints and assay offices of the United States, during the last calendar year, classi-



fied as domestic bullion, was \$38,929,228.78, containing 30,109,325 ounces of fine silver.

The custom-house valuation of silver bars of domestic production exported during the year, exclusive of a small amount of silver bars bearing the stamp of a United States mint or assay office, was \$26,301,754, corresponding at the average price of silver during the year (\$0.93½ per ounce fine), to 28,130,000 ounces of fine silver.

In addition to the exportation of silver in fine bars, odd quantities of silver which escaped registration at the custom-house were contained in copper matte and pigs exported. Through the assiduous efforts of the superintendent of the assay office of the United States at New York, and the co-operation of the collector of customs at that port, it has been ascertained that the quantity of silver exported in copper matte and other furnace products during the year approximated 677,941 fine ounces, of which 48,500 ounces were contained in copper matte produced in Canada, leaving as the quantity of our own silver known to have been exported in copper products approximately 629,000 fine ounces.

The following letter from the superintendent of the assay office in New York City exhibits in detail the exports during the year of copper matte and bars containing silver :

UNITED STATES ASSAY OFFICE, NEW YORK CITY,

*Superintendent's Office, March 5, 1890.*

SIR: In response to your letter of the 20th ultimo, asking me to ascertain, as nearly as possible, the quantity of gold and silver which left the United States in the shape of copper matte and other furnace products, and was not included in the reports of the collector of customs at New York of exports of gold and silver coin, bullion, and ore, the following estimate is respectfully submitted :

Shippers.	Copper matte.	Silver per ton.	Silver contents.
	<i>Pounds.</i>	<i>Ounces.</i>	<i>Ounces.</i>
Abbott & Co. ....	428,000	.....	6,678.34
American Metal Company. ....	500,000	25	6,250.00
Do. ....	4,850,000	20	48,500.00
Ammerman & Patterson. ....	1,671,000	30	25,065.00
W. A. Clark. ....	879,000	75	32,962.50
F. Herriott. ....	5,493,000	25	68,662.50
Lewisohn Brothers. ....	1,842,000	25	23,025.00
Oelrichs & Co. ....	266,000	50	6,650.00
Williams & Terhune. ....	21,036,000	25	262,950.00
Do. ....	1,750,000	90	78,750.00
Total copper matte. ....	38,715,000	.....	559,493.34
<b>COPPER.</b>			
Abbott & Co. ....	1,126,000	.....	4,452.61
American Metal Company. ....	950,000	90	42,750.00
Sundry persons. ....	14,249,000	10	71,245.00
Total. ....	55,040,000	.....	677,940.95

Of the above amount 48,500 ounces of silver (shipped by the American Metal Company) were contained in matte from Canada. The remainder was chiefly from Montana.

The amount of gold thus exported was very small, the great bulk of the exports containing little, if any. The only estimates obtainable were from the American Metal Company and Messrs. Abbott & Co. The former estimated that 950,000 pounds of their copper exported carried 1 ounce per ton, or 475 ounces; the latter reported 36.811 ounces, also in copper; a total of 511.811 ounces.

Owing to the greatly improved facilities for smelting and refining now offered in this country, the export of ores containing gold and silver, has practically ceased. Since July 1, 1889, it has comprised only a few hundred dollars' worth, understood to be sample assays of ores. The custom-house valuation of these exports was \$12,256 for the entire year (probably silver).

Very respectfully,

ANDREW MASON,  
*Superintendent.*

E. O. LEECH,  
*Director of the Mint, Washington, D. C.*

From reports courteously furnished by twenty-six private firms in the United States engaged in the business of preparing bars for manufacturers and jewelers, it is known that there was used, during the year, of domestic silver bullion, other than United States mint or assay office bars, in the preparation of bars furnished directly to manufacturers, 2,918,929 fine ounces of silver.

The amount of domestic silver thus accounted for aggregates 61,787,254 fine ounces.

From this, however, must be deducted the amount of foreign silver smelted and refined in the United States.

The commercial value of the foreign silver bullion imported into the United States during the year, as registered at the custom-houses, was \$5,453,534, corresponding at the average price of silver during the year (0.93½) to 5,833,000 ounces.

Foreign silver ores were imported of the value, as registered at the custom-houses, of \$7,584,715.

The value of the silver contents of these ores, according to custom-house valuation, was \$6,722,086, which, at the average valuation accorded silver in ores according to Treasury regulation (95 per cent. of New York price), something less than 93 cents per ounce, corresponds to approximately 7,000,000 ounces of fine silver.

The quantity, therefore, of foreign silver contained in bars and in ores imported into this country during the last calendar year, was approximately 12,833,000 fine ounces.

Of the foreign silver bullion imported into the United States, there was deposited at the mints and assay offices, 926,558 fine ounces.

The remainder, 11,906,442 ounces, went to private refineries and is included in the bars of fine silver turned out at those works and classified, at the mints and in export statements, as domestic bars. Deducting this from the aggregate of 61,787,254 fine ounces shown above, we have 49,880,812 fine ounces as approximately representing the product of silver from our own mines.



The following table presents the data upon which the estimate of the silver product of the country is based :

ESTIMATE OF SILVER PRODUCT OF MINES OF THE UNITED STATES, 1889.	
Sources.	Fine ounces.
Bullion deposited at mints and assay offices, classified as of domestic production....	30, 109, 325
Bullion (other than United States mint or assay office bars), classified as of domestic production, exported from the United States (custom-house rating at commercial value \$26,301,754, corresponding at average price of silver during the year, \$0.93½ per fine ounce) .....	28, 130, 000
Contained in copper matte and ore exported from the United States, silver contents not registered (approximate) .....	629, 000
Bullion of domestic production reported by private refineries in the United States as having been made into bars for industrial use.....	2, 918, 929
Total .....	61, 787, 254
Deduct:	
	<i>Fine ounces.</i>
Foreign silver bullion imported into the United States (approximate) ..	5, 833, 000
Silver in ores imported into the United States (approximate).....	7, 000, 000
Total imported .....	12, 833, 000
Less: Foreign silver bullion deposited at mints and assay offices.....	926, 558
Foreign silver included in fine bars manufactured by private refineries in the United States and classified at the mints and custom-house as domestic (approximate) .....	11, 906, 442
Estimated silver product for 1889 .....	49, 880, 812

As confirmatory of the above estimate of the silver yield of our mines, the following table, exhibiting the product of private and Government refineries, together with the silver exported in furnace products, is here presented :

ESTIMATE OF SILVER PRODUCT OF MINES OF THE UNITED STATES, 1889.	
Sources.	Fine ounces.
Domestic product of fine silver bars reported by ten private refineries of the United States, being all who manufacture fine silver bars.....	47, 864, 982
Unrefined silver of domestic production deposited at mints and assay offices.....	2, 024, 700
Silver exported in copper matte and ore.....	629, 000
Estimated silver product for 1889 .....	50, 518, 682

The total product of all the private refineries in the United States manufacturing bars of fine silver, during the last year, as reported to this Bureau, was 57,079,401 ounces of fine silver, of which 9,214,419 ounces were reported as having been obtained from foreign ores and base bullion, leaving 47,864,982 ounces as the product of ores from our own mines.

Unrefined silver bullion containing 2,024,700 fine ounces, the product

of our own mines, was deposited at the mints and assay offices during the year.

With the exception of silver contained in copper matte and pigs exported, approximately 629,000 fine ounces, the product of private and Government refineries included all the silver produced in the United States.

According to this table the product of silver from the mines of the United States was 50,518,682 fine ounces, or slightly in excess of the amount shown by the previous table. As the separation of the product of our own mines from that of foreign ores made by private refineries is not exact, something of a mean between these two estimates has been adopted as approximately representing the silver product of the United States during the calendar year, viz, **50,000,000** fine ounces.

The product of silver in the United States has steadily increased, with slight exceptions, each year since 1880, the product of 1889 being 66 per cent. greater than that of 1880.

The product for each year since 1878 is exhibited in the following table:

PRODUCTION OF SILVER FROM THE MINES OF THE UNITED STATES, 1878-1889.

Calendar years.	Fine ounces.	Commercial value.	Coining value.
1878.....	34,960,000	\$40,270,000	\$45,200,000
1879.....	31,550,000	35,430,000	40,800,000
1880.....	30,320,000	34,720,000	39,200,000
1881.....	33,260,000	37,850,000	43,000,000
1882.....	36,200,000	41,120,000	46,800,000
1883.....	35,730,000	39,660,000	46,200,000
1884.....	37,800,000	42,070,000	48,800,000
1885.....	39,910,000	42,500,000	51,600,000
1886.....	39,440,000	39,230,000	5,000,000
1887.....	41,260,000	40,410,000	53,350,000
1888.....	45,780,000	43,020,000	59,195,000
1889.....	50,000,000	46,750,000	64,646,464

*DISTRIBUTION OF THE PRODUCT OF THE PRECIOUS METALS IN THE UNITED STATES AMONG THE PRODUCING STATES AND TERRITORIES.*

The amount of gold produced in the United States during the calendar year 1889 was, as previously stated, **1,587,000** fine ounces, of the value of **\$32,800,000**; and the amount of silver, **50,000,000** fine ounces of the commercial value of **\$46,750,000**, and of the coining value of **\$64,646,464**. The total coining value of the product of gold and silver from the mines of the United States for the calendar year 1889, was, therefore, **\$97,446,464**, against **\$92,370,000** in the preceding year.

It is important, but difficult, to ascertain with accuracy what portion

of this aggregate product was obtained from the mines of each of the contributing States and Territories of the Union.

The solution of this question, as well as the collection and compilation of the statistics of the production of the precious metals in each of the contributing States and Territories, was confided to agents selected for the purpose on account of special fitness and personal acquaintance with the localities assigned them.

It may be of public interest to know how the statistics of the production of the several States and Territories were compiled for the last calendar year.

The collection of the statistics for the States of California, Oregon, and Washington, and the Territory of Alaska, was assigned to the superintendent of the mint at San Francisco; for Nevada, to the superintendent of the mint at Carson City; for Montana, to the assayer in charge of the United States assay office at Helena, Mont.; for Idaho, to the assayer in charge of the United States assay office at Boise City, in that Territory; for Colorado, to the assayer in charge of the United States mint at Denver; for the States of the Appalachian Range, to the assayer in charge of the United States assay office located at Charlotte, N. C.

The following agents were selected for the purpose of collecting and compiling the statistics of the other producing States and Territories: Texas, Mr. Francis N. Holbrook; Arizona, John F. Blandy, M. E.; New Mexico, Mr. Walter C. Hadley; Utah, Mr. A. Hanauer, of Salt Lake City; Dakota, Prof. G. E. Bailey, Rapid City, S. Dak.

The report of each of these officers and agents on the particular States and Territories assigned him, will be found in the appropriate chapters in Part II. of this report.



The following table recapitulates the direct estimates made by the officers and agents of the Mint Service of the product of gold and silver in the several States and Territories:

AGGREGATE PRODUCTS OF GOLD AND SILVER REPORTED BY MINT OFFICERS AND AGENTS FOR THE INDIVIDUAL STATES AND TERRITORIES, 1889.

State or Territory.	Gold.		Silver.		Total value.
	Fine ounces.	Value.	Fine ounces.	Coining value.	
Alaska .....	46, 077	\$952, 490	8, 322	\$10, 760	\$963, 250
Arizona .....	52, 828	1, 092, 059	2, 103, 630	2, 719, 845	3, 811, 904
California .....	666, 958	13, 787, 252	823, 928	1, 065, 281	14, 852, 533
Colorado.....	175, 902	3, 636, 217	20, 541, 770	26, 559, 058	30, 195, 275
Dakota .....	140, 898	2, 912, 625	124, 263	160, 663	3, 073, 288
Georgia .....	5, 205	107, 605	360	465	108, 070
Idaho.....	99, 445	2, 055, 708	3, 434, 331	4, 440, 347	6, 496, 055
Montana.....	183, 535	3, 794, 000	15, 498, 814	20, 038, 871	23, 832, 871
Nevada.....	154, 156	3, 186, 667	4, 919, 724	6, 360, 855	9, 547, 522
New Mexico.....	54, 969	1, 136, 320	1, 462, 651	1, 891, 105	3, 027, 425
North Carolina .....	7, 077	146, 295	3, 000	3, 878	150, 173
Oregon .....	65, 415	1, 352, 249	32, 166	41, 589	1, 393, 838
South Carolina .....	2, 266	46, 852	180	232	47, 084
Texas .....			310, 007	400, 709	400, 709
Utah .....	24, 866	514, 025	7, 106, 885	9, 188, 700	9, 702, 725
Virginia.....	198	4, 100	10	12	4, 112
Washington .....	9, 371	193, 709	81, 984	106, 000	299, 709
Total .....	1, 689, 166	34, 918, 173	56, 452, 025	72, 988, 370	107, 906, 543

The aggregate product reported by these officers and agents is, as usual, considerably higher, especially as to silver, than the total product of the country as estimated by this Bureau.

It has never been the practice to adopt the estimates of the agents for particular localities as correctly representing the product of such sections. However valuable these statistics may be as exhibiting in detail the product of particular mines or sections of the country and the condition of the mining industry in the various States, and however conscientiously the officers and agents selected may have performed the duties intrusted to them, the tendency to exaggeration on the part of individual producers is so great and the sources of information in many cases are so imperfect as to preclude the possibility of accepting, in all cases, the aggregate products reported as the product of the United States.

As has been explained, the gold product of the United States finds its way almost entirely, either directly or indirectly, to the mints of the United States, for coinage purposes or for manufacture into bars, so that the total gold product of the country is readily ascertained and accounted for. The silver product of our mines is, owing to the large influx of foreign ores, much more difficult to ascertain than that of gold. The estimate we make of that product is based on what is considered

more reliable data than the unverified statements of producers of crude bullion, or estimates made by parties living in, and interested in, the silver-producing districts.

The following table presents approximately the product of gold and silver in each of the States and Territories as estimated from returns to this Bureau :

APPROXIMATE DISTRIBUTION BY PRODUCING STATES AND TERRITORIES, OF THE PRODUCT OF GOLD AND SILVER IN THE UNITED STATES FOR THE CALENDAR YEAR 1889, AS ESTIMATED BY THE DIRECTOR OF THE MINT.					
State or Territory.	Gold.		Silver.		Total value.
	Fine ounces.	Value.	Fine ounces.	Coining value.	
Alaska .....	43,537	\$900,000	8,000	\$10,343	\$910,343
Arizona .....	43,537	900,000	1,500,000	1,939,393	2,839,393
California.....	628,875	13,000,000	800,000	1,034,343	14,034,343
Colorado.....	169,312	3,500,000	16,000,000	20,686,868	24,186,868
Dakota .....	140,287	2,900,000	50,000	64,646	2,964,646
Georgia.....	5,176	107,000	360	465	107,465
Idaho.....	96,750	2,000,000	3,400,000	4,395,959	6,395,959
Michigan .....	3,386	70,000	60,000	77,575	147,575
Montana.....	169,312	3,500,000	15,000,000	19,393,939	22,893,939
Nevada.....	145,125	3,000,000	4,800,000	6,206,060	9,206,060
New Mexico.....	48,375	1,000,000	1,130,000	1,461,010	2,461,010
North Carolina .....	7,014	145,000	3,000	3,878	148,878
Oregon .....	58,050	1,200,000	30,000	38,787	1,238,787
South Carolina.....	2,177	45,000	180	232	45,232
Texas.....			232,031	300,000	300,000
Utah.....	24,187	500,000	7,000,000	9,050,505	9,550,505
Washington .....	8,466	175,000	80,000	103,434	278,434
Alabama, Maryland, Ten- nessee, Virginia, Ver- mont, and Wyoming .....	1,209	25,000	1,000	1,293	26,293
Total .....	1,594,775	32,967,000	50,094,571	64,768,730	97,735,730

Colorado still maintains the first place among producing States and Territories, the product for gold and silver aggregating \$24,186,868.

Montana stands next, with an aggregate product of \$22,893,939.

California is by far the largest gold producer, the value of the gold produced from its mines during the last year being \$13,000,000, about two-fifths of the entire gold product of the United States. The value of both the gold and silver produced in California last year was \$14,034,343.

Utah shows a large increase, notably in silver, over 1888, the total product of gold and silver for 1889 being \$9,550,505, against \$7,290,000 in 1888.

Nevada reports a reduced product, the value of the gold and silver being \$9,206,060, against \$10,525,000 in 1888.



Idaho reports an increased product, the value being \$6,395,959 in 1889, against \$5,400,000 in 1888.

The gold product of Dakota increased from \$2,600,000 in 1888 to \$2,900,000 in 1889.

Arizona reports a diminished product in 1889, principally in silver.

New Mexico reports an increased product in both gold and silver, the value being \$2,461,010, against \$1,802,000 in 1888.

Oregon, Washington, and Alaska report increased products during the last calendar year, while the gold product of the States of the Appalachian Range shows a slight increase over 1888.

#### *WORK OF PRIVATE REFINERIES IN THE UNITED STATES.*

The Bureau is greatly indebted to the officers and managers of the large private refineries and smelting works in the United States, as well as to their New York agents, for very complete and valuable statistics in regard to the output of the precious metals from their works during the year, and the sources from which the ores and base bullion were obtained. Without the co-operation of private works, it would have been exceedingly difficult, indeed well-nigh impossible, to have ascertained accurately the product of the precious metals in this country, for the reason that these works handle more than half of the gold and fully nine-tenths of the silver from our mines, together with all the foreign silver ores which come to this country for reduction.

The following is a list of the refineries producing fine bars of gold or silver, or both, which have furnished the Bureau with detailed information as to the amount of their product for the year, and the sources from which obtained :

#### LIST OF PRIVATE REFINERIES AND REDUCTION WORKS IN THE UNITED STATES PRODUCING BARS OF FINE GOLD OR FINE SILVER, OR BOTH.

Refineries.	Location.	Refineries.	Location.
Amador and Phoenix Reduction Works .....	Sutter Creek, Cal.	Newark Smelting and Refining Works .....	Newark, N. J.
Boston and Colorado Smelting and Refining Company .....	Denver, Colo.	Omaha and Grant Smelting and Refining Company .....	Omaha, Nebr.
Chicago and Aurora Smelting and Refining Company .....	Chicago, Ill.	Pennsylvania Lead Company .....	Mansfield, Pa.
Kansas City Smelting and Refining Company .....	Kansas City, Mo.	C. S. Platt Refinery .....	New York, N. Y.
Mattman Reduction Works .....	Nevada City, Cal.	Thos. Price & Son .....	San Francisco, Cal.
		St. Louis Smelting and Refining Company .....	St. Louis, Mo.

The following is a list of the smelting and reduction works producing base bars, which have furnished the Bureau with information as to the amount of their product and the disposition of it.

## LIST OF SMELTING AND REDUCTION WORKS IN THE UNITED STATES PRODUCING BASE BARS, MAKING REPORTS TO THE BUREAU OF THE MINT.

Names.	Location.	Names.	Location.
The Arkansas Valley Smelting Company.....	Leadville, Colo.	Pennsylvania Smelting and Refining Company.....	Philadelphia, Pa.
The Colorado Smelting Company.....	Pueblo, Colo.	Pueblo Smelting and Refining Company.....	Pueblo, Colo.
El Paso Smelting Works...	El Paso, Tex.	The Rio Grande Smelting Company.....	Socorro, N. Mex.
The Globo Smelting and Refining Company.....	Denver, Colo.	San Juan Smelting and Mining Company.....	Durango, Colo.
Germania Lead Works....	Salt Lake City, Utah.		
Harrison Reduction Works.	Leadville, Colo.		

Through the information furnished by smelting and reduction works turning out base silver bars, the Bureau has been able to trace the product of private refineries producing bars of fine gold and fine silver to the original source of production.

The reports received from these refineries are treated as confidential, and the information furnished is used mainly in assisting the Bureau to verify the estimates of its own agents as to the production of the several States and Territories, and as an additional aid in checking the total product of the United States based on deposits at Government institutions and exports of the precious metals.

The following tables exhibit the reported product of gold and silver by private refineries in the United States in the shape of fine bars, and the amount of unrefined gold and silver deposited at Government institutions for parting and refining:

GOLD PRODUCT OF REFINERIES IN THE UNITED STATES, 1889.			
Items.	Fine ounces (troy).		
	Domestic.	Foreign.	Total.
Reported product of private refineries in the United States.	847, 865	63, 811	911, 676
Unrefined gold deposited at Government institutions ....	689, 658	926, 558	1, 616, 216
Total .....	1, 537, 523	990, 369	2, 527, 892

SILVER PRODUCT OF REFINERIES IN THE UNITED STATES, 1889.			
Items.	Fine ounces (troy).		
	Domestic.	Foreign.	Total.
Reported product of private refineries in the United States.	47, 864, 982	9, 214, 419	57, 079, 401
Unrefined silver deposited at Government institutions ...	2, 024, 700	1, 132, 368	3, 157, 068
Total .....	49, 889, 682	10, 346, 787	60, 236, 469



*DEPOSITS AND PURCHASES OF GOLD AND SILVER.*

The value of all the gold and silver received at the mints and assay offices of the United States during the calendar year 1889 was \$91,140,237.67, of which \$84,576,471.17 represents new deposits and \$6,563,766.50 re-deposits.

The value of the gold deposited, including gold parted from silver deposits and purchases, was \$48,903,072.46, of which \$42,599,206.62 were new deposits and \$6,303,865.84 re-deposits. Of the re-deposits \$2,839,724.17 were bars bearing the stamp of the New York assay office, and the remainder consisted mainly of deposits at the minor assay offices melted into unparted bars and shipped to the mint at Philadelphia for refining and coinage.

Of the original deposits of gold, \$31,959,047.15 was classified as of domestic production, against \$30,775,020.09 in the preceding year. Of the gold of domestic production deposited at the mints, \$17,702,547.24 were fine gold bars bearing the stamp of private refineries in the United States and \$14,256,499.91 were deposits of unrefined bullion. The distribution among producing States and Territories of the unrefined gold deposited at the mints will be found in a table in the Appendix.

Foreign gold bullion of the value of \$2,340,813.56 and foreign gold coin of the value of \$4,004,164.10, a total foreign product of \$6,344,977.66, was deposited and melted at the mints and assay offices during the year.

Light-weight domestic gold coin was melted of the value of \$662,278.32 and old jewelry, plate, etc., containing gold of the value of \$3,632,903.49.

The deposits and purchases of silver, including silver parted from gold deposits, aggregated during the year 36,297,564.01 standard ounces of the coining value of \$42,237,165.21, of which 36,074,211.86 standard ounces, of the coining value of \$41,977,264.55, consisted of new deposits and 223,352.15 standard ounces, of the coining value of \$259,900.66, of re-deposits.

Of the original deposits of silver, 33,454,806.10 standard ounces, of the coining value of \$38,929,228.78, were classified as of domestic production. Of this amount, 31,205,139.25 standard ounces, of the coining value of \$36,311,434.70, consisted of fine bars of silver bearing the stamps of private refineries in the United States. As these refineries handle the product of all the foreign silver ores reduced in the United States, and the bulk of the foreign silver bullion imported, their fine bars, although classified in registers of deposits at Government institutions as "domestic silver bullion," contain large quantities of foreign silver.

Of the silver deposited at the mints, 2,249,666.85 standard ounces, of the coining value of \$2,617,794.08, consisted of unrefined silver of domestic production, the distribution of which among producing States and Territories is exhibited in a table in the Appendix.



Of the deposits of silver at the mints during the calendar year 1,029,509.65 standard ounces, of the value of \$1,197,974.87, was foreign bullion, distinctively known as such, and 376,715.53 standard ounces, of the coining value of \$438,359.88, foreign silver coins.

Worn and uncurrent silver coins of the United States, mostly subsidiary pieces unfit for circulation received at the Treasury and its branches and transferred to the mints at San Francisco and Philadelphia for recoinage, were melted during the year, containing after melting, 626,438.18 standard ounces of silver of the value of \$728,946.25.

Trade dollars were purchased as bullion containing 5,345.34 standard ounces of silver of the value of \$6,220.03.

Silver jewelry, plate, etc., was purchased containing 581,397.06 standard ounces, of the value of \$676,534.74.

The value of the gold and silver (not including re-deposits) received at the mints and assay offices of the United States each calendar year since 1880 is here shown :

GOLD AND SILVER (NOT INCLUDING RE-DEPOSITS) RECEIVED AT THE MINTS AND ASSAY OFFICES DURING THE CALENDAR YEARS 1880-1889.

Calendar years.	Gold.	Silver (coining value).	Total.
1880 .....	\$100, 278, 703	\$35, 103, 825	\$135, 382, 528
1881 .....	98, 763, 426	30, 326, 848	129, 090, 274
1882 .....	41, 921, 263	35, 161, 254	77, 082, 517
1883 .....	51, 089, 456	36, 978, 184	88, 067, 640
1884 .....	50, 518, 179	36, 670, 731	87, 188, 910
1885 .....	44, 714, 052	35, 836, 725	80, 550, 777
1886 .....	66, 422, 088	39, 086, 070	105, 508, 158
1887 .....	74, 724, 077	46, 381, 333	121, 105, 410
1888 .....	41, 496, 410	41, 323, 973	82, 820, 383
1889 .....	42, 599, 206	41, 977, 265	84, 576, 471

The usual tables exhibiting, by weight and value, the deposits and purchases of gold and silver at each of the mints and assay offices of the United States will be found in the Appendix.

COINAGE DURING THE CALENDAR YEAR 1889.

Coinage at the mint at Carson, which was suspended March 8, 1885, was resumed in October, 1889.

The coinage executed during the calendar year 1889 at the four coinage mints of the United States, viz, at Philadelphia, San Francisco, New Orleans, and Carson City aggregated 109,140,917 pieces, of the face value of \$58,194,022.64.

The coinage is exhibited in the following table :

COINAGE, CALENDAR YEAR 1889.		
Description.	Pieces.	Value.
Gold.....	1, 338, 012	\$21, 413, 931. 00
Silver dollars.....	34, 651, 811	34, 651, 811. 00
Subsidiary silver coins.....	8, 378, 811	844, 872. 15
Minor coins.....	64, 772, 283	1, 283, 408. 49
Total.....	109, 140, 917	58, 194, 022. 64

For the purpose of comparison the coinage executed at the mints of the United States during the preceding calendar year is here presented :

COINAGE, CALENDAR YEAR 1888.

Description.	Pieces.	Value.
Gold .....	2, 238, 562	\$31, 380, 808. 00
Silver dollars.....	31, 990, 833	31, 990, 833. 00
Subsidiary silver coins.....	8, 456, 153	1, 034, 773. 45
Minor coins .....	48, 255, 980	912, 200. 78
Total .....	90, 941, 528	65, 318, 615. 23

In the Appendix will be found the usual tables showing, by institutions and by denominations of pieces, the coinage of the calendar year 1889.

A table will also be found exhibiting the coinage of the mints, by denominations of pieces, each calendar year since the establishment of the mint in 1792.

GOLD AND SILVER BARS MANUFACTURED.

In addition to the coinage executed, bars of gold and silver were manufactured at the mints and assay offices of the value of \$28,572,502.37, as follows :

BARS MANUFACTURED, CALENDAR YEAR 1889.	
Metals.	Value.
Gold.....	\$22, 349, 752. 28
Silver.....	6, 222, 751. 09
Total.....	28, 572, 503. 37

For the purpose of comparison the value of the bars manufactured during the preceding calendar year is here presented :

## BARS MANUFACTURED, CALENDAR YEAR 1888.

Metals.	Value.
Gold .....	\$22, 650, 798. 47
Silver .....	7, 635, 490. 71
Total .....	30, 286, 289. 18

With the exception of unparted bars of gold and silver, representing the deposits at minor assay offices, the bulk of the gold and silver bars was manufactured at the assay office of the United States at New York.

## GOLD BARS EXCHANGED FOR GOLD COIN.

Under the provisions of the act of May 26, 1882, gold bars were exchanged for gold coin during the calendar year 1889, free of charge, of the value of \$46,913,753.55.

The value of the gold bars exchanged for gold coin each month at the assay office at New York and the mint at Philadelphia, which are the only institutions at which advantage was taken of this law, is exhibited in the following table :

GOLD BARS EXCHANGED FOR GOLD COIN FROM JANUARY 1, 1889, TO DECEMBER 31, 1889.			
Months.	Philadelphia.	New York.	Total.
January .....	\$55, 232. 56	\$1, 329, 326. 15	\$1, 384, 558. 71
February .....	55, 137. 96	1, 024, 695. 80	1, 079, 833. 76
March .....	55, 185. 49	2, 843, 860. 67	2, 899, 046. 16
April .....	55, 209. 65	1, 440, 127. 33	1, 495, 336. 98
May .....	50, 207. 51	12, 964, 489. 94	13, 014, 697. 45
June .....	70, 264. 77	17, 308, 849. 09	17, 379, 113. 86
July .....	30, 144. 94	5, 017, 680. 02	5, 047, 824. 96
August .....	50, 185. 01	539, 924. 36	590, 109. 37
September .....	40, 153. 52	649, 020. 91	689, 174. 43
October .....	70, 326. 71	2, 230, 781. 30	2, 301, 108. 01
November .....	45, 222. 53	575, 598. 04	620, 820. 57
December .....	35, 205. 05	376, 924. 24	412, 129. 29
Total .....	612, 475. 70	46, 301, 277. 85	46, 913, 753. 55



## SILVER PURCHASES.

The quantity of silver delivered during the calendar year 1889 on purchases for the coinage of the standard silver dollar was 27,125,357.61 fine ounces, costing \$25,379,510.60, an average cost of \$0.935637 per fine ounce.

The amount of silver offered the Treasury Department for sale during the year aggregated 47,965,700 fine ounces, an average of 452,506 ounces for each purchase day, Mondays and Thursdays of each week. The semi-weekly offers are presented in the following table:

## OFFERS OF SILVER TO THE TREASURY DEPARTMENT DURING THE CALENDAR YEAR 1889.

Date.	Fine ounces.	Date.	Fine ounces.	Date.	Fine ounces.
Jan'y 2 .....	705,000	May 2 .....	975,000	Sept. 2 .....	850,000
4 .....	225,000	6 .....	750,000	5 .....	175,000
8 .....	490,000	9 .....	690,000	9 .....	626,000
11 .....	470,000	13 .....	450,000	12 .....	870,000
15 .....	470,000	16 .....	460,000	16 .....	705,000
18 .....	456,000	20 .....	310,000	19 .....	347,000
22 .....	395,000	23 .....	400,000	23 .....	400,000
25 .....	350,000	27 .....	200,000	26 .....	318,000
29 .....	200,000	29 .....	100,000	30 .....	100,000
Total .....	3,761,000	Total .....	4,335,000	Total .....	4,391,000
Feb'y 1 .....	810,000	June 1 .....	100,000	Oct. 3 .....	816,000
5 .....	416,000	3 .....	730,000	7 .....	594,000
8 .....	255,000	6 .....	850,000	10 .....	717,000
12 .....	275,000	10 .....	478,000	14 .....	590,000
15 .....	500,000	13 .....	494,000	17 .....	450,000
19 .....	620,000	17 .....	545,000	21 .....	341,000
21 .....	445,000	20 .....	597,000	24 .....	64,000
26 .....	260,000	24 .....	330,000	28 .....	430,000
Total .....	3,581,000	27 .....	310,000	31 .....	60,700
March 1 .....	690,000	Total .....	4,434,000	Total .....	4,062,700
5 .....	255,000	July 1 .....	577,000	Nov. 4 .....	524,000
8 .....	345,000	3 .....	500,000	7 .....	375,000
12 .....	300,000	8 .....	875,000	11 .....	510,000
15 .....	520,000	11 .....	500,000	14 .....	508,000
19 .....	465,000	15 .....	600,000	18 .....	80,000
22 .....	205,000	18 .....	377,000	21 .....	494,000
25 .....	240,000	22 .....	417,000	25 .....	70,000
28 .....	465,000	25 .....	285,000	29 .....	510,000
Total .....	3,485,000	29 .....	180,000	Total .....	3,071,000
April 1 .....	590,000	Total .....	4,311,000	Dec. 2 .....	447,000
4 .....	507,000	Aug. 1 .....	1,165,000	5 .....	391,000
8 .....	529,000	5 .....	728,000	9 .....	487,000
11 .....	410,000	8 .....	579,000	12 .....	425,000
15 .....	450,000	12 .....	150,000	16 .....	697,000
18 .....	475,000	15 .....	480,000	19 .....	622,000
22 .....	370,000	19 .....	485,000	23 .....	407,000
25 .....	355,000	22 .....	457,000	26 .....	124,000
29 .....	225,000	26 .....	505,000	30 .....	200,000
Total .....	3,911,000	29 .....	274,000	Total .....	3,800,000
		Total .....	4,823,000		

## OFFERS OF SILVER TO THE TREASURY DEPARTMENT, ETC.—CONTINUED.

## RECAPITULATION.

Months.	Fine ounces.	Months.	Fine ounces.
1889.		1889.	
January .....	3, 761, 000	August .....	4, 823, 000
February .....	3, 581, 000	September .....	4, 391, 000
March .....	3, 485, 000	October .....	4, 062, 700
April .....	3, 911, 000	November .....	3, 071, 000
May .....	4, 335, 000	December .....	3, 800, 000
June .....	4, 434, 000	Total .....	47, 965, 700
July .....	4, 311, 000		

An average of 452,506 fine ounces each purchase day.

The total amount of silver purchased under the requirements of the act of February 28, 1878, from March 1, 1878 to December 31, 1889, was 274,632,503.20 fine ounces, costing \$291,470,956.16, an average cost of \$1.06,1312 per fine ounce.

At the average cost of silver for the whole period, the commercial, or bullion, value of the silver dollar is \$0.82,085.

The coinage of silver dollars for the same period has aggregated 349,938,001 pieces.

## THE COURSE OF SILVER.

The average price of silver in London for the calendar year 1889, based on daily cablegrams to the bureau of the mint, was 42.659 pence per ounce, British standard [.925], equivalent at the par of exchange to \$0.93,533 per fine ounce, or at the average rate of exchange to \$0.93,695. The average price of fine bar silver in New York during the same year was \$0.93,631.

At the commencement of the year, silver was quoted at  $42\frac{9}{16}$  pence. The price remained almost constant during the first nine months of the calendar year, not exceeding  $42\frac{3}{4}$  pence, nor falling below 42 pence, except one day, May 29, when it fell to  $41\frac{1}{16}$  pence. About the middle of October an advance commenced which continued almost without interruption until the highest point,  $44\frac{3}{8}$  pence, was reached on November 25th. The price declined, slightly recovering, however, on December 2. During the month of December the price ranged a little below 44 pence, closing at 44 pence on the last day of December, an advance of  $1\frac{7}{16}$  pence over the opening price of the year.

Among the causes which have been assigned for the enhanced price of silver during the last quarter of the year, may be enumerated the large shipments of silver, to India, amounting for the year to about \$40,000,000, or \$12,000,000 more than the preceding year, while the sale of council bills realized £15,800,000, about \$77,000,000, an excess of \$10,000,000 over the preceding year. The market was also materially assisted by large purchases of silver by the English Government for domestic and colonial coinages, estimated at about \$8,000,000.



The following table exhibits the highest, lowest, and mean price of silver in London each month during the calendar year 1889, according to daily cablegrams to this Bureau, and the equivalent value of an ounce of fine silver at the par of exchange, and at the average rate of exchange, and also the average price of fine bar silver in New York :

HIGHEST, LOWEST, AND AVERAGE PRICE IN LONDON OF SILVER BULLION 925 THOUSANDTHS FINE, AND VALUE OF A FINE OUNCE EACH MONTH DURING THE CALENDAR YEAR 1889.

Months.	Highest.	Lowest.	Average price per ounce, British standard, .925.	Equivalent value of a fine ounce with exchange at par, \$4.8665.	Average monthly price at New York of exchange on London.	Equivalent value of a fine ounce, based on average monthly price and average rate of exchange.	Average monthly New York price of fine bar silver.
1889.	<i>Pence.</i>	<i>Pence.</i>	<i>Pence.</i>				
January .....	42 <sup>11</sup> / <sub>16</sub>	42 <sup>3</sup> / <sub>8</sub>	42.544	\$0.93261	\$4.8810	\$0.93616 *	\$0.93644
February .....	42 <sup>3</sup> / <sub>4</sub>	42 <sup>1</sup> / <sub>2</sub>	42.591	0.93371	4.8872	0.93752	0.93750
March .....	42 <sup>5</sup> / <sub>8</sub>	42 <sup>1</sup> / <sub>4</sub>	42.521	0.93211	4.8894	0.93652	0.93769
April .....	42 <sup>5</sup> / <sub>16</sub>	42 <sup>1</sup> / <sub>8</sub>	42.185	0.92474	4.8895	0.92918	0.92865
May .....	42 <sup>1</sup> / <sub>4</sub>	41 <sup>11</sup> / <sub>16</sub>	42.162	0.92424	4.8909	0.92893	0.92865
June .....	42 <sup>3</sup> / <sub>16</sub>	42	42.031	0.92143	4.8879	0.92547	0.92595
July .....	42 <sup>5</sup> / <sub>16</sub>	42	42.159	0.92417	4.8776	0.92638	0.92558
August .....	42 <sup>9</sup> / <sub>16</sub>	42 <sup>1</sup> / <sub>4</sub>	42.349	0.92834	4.8731	0.92959	0.92843
September .....	42 <sup>11</sup> / <sub>16</sub>	42 <sup>3</sup> / <sub>8</sub>	42.522	0.93213	4.8798	0.93477	0.92589
October .....	43 <sup>1</sup> / <sub>2</sub>	42 <sup>5</sup> / <sub>8</sub>	42.944	0.94382	4.8612	0.94036	0.94120
November .....	44 <sup>3</sup> / <sub>8</sub>	43 <sup>5</sup> / <sub>8</sub>	43.923	0.96284	4.8500	0.95956	0.96100
December .....	44 <sup>3</sup> / <sub>8</sub>	43 <sup>3</sup> / <sub>4</sub>	43.967	0.96381	4.8419	0.95894	0.95880
Average .....			42.659—	0.93533—	4.8757+	0.93695—	0.93631+

The following table, extracted from the annual circular of Messrs. Pixley & Abell, exhibits the value of the imports and exports of bullion, gold and silver, to and from London during the year 1889 :

IMPORTS OF BULLION INTO LONDON.

Countries.	Gold.	Silver.	Total.
Belgium .....	£450, 222	£127, 139	£577, 361
France .....	1, 672, 651	2, 280, 522	3, 953, 173
Germany .....	186, 443	257, 349	443, 792
Holland .....	2, 250, 934	3, 113	2, 254, 067
Sweden and Denmark .....	7, 379	22	7, 401
Russia .....			
Spain, Portugal, etc.....	46, 915	161, 314	208, 229
Gibraltar .....	17, 252	2, 325	19, 577
Malta .....	5, 440	1, 293	6, 733
Alexandria .....	990, 796	149, 388	1, 140, 184
Aden .....			
Ceylon .....			
Bombay .....			
Madras .....			
Calcutta .....			
Singapore .....			
Penang .....			
Manilla .....			

## IMPORTS OF BULLION INTO LONDON— Continued.

Countries.	Gold.	Silver.	Total.
Hong-Kong .....	£658, 150	£63	£658, 213
Shanghai .....			
Foo-chow-foo .....			
Yokohama .....			
Cape of Good Hope .....	1, 611, 564	29, 311	1, 640, 875
Cape Verd, Sierra Leone, etc .....			
United States .....	2, 568, 966	3, 975, 943	6, 544, 909
Mexico, South America (except Brazil), West Indies, etc .....	2, 723, 559	2, 137, 160	4, 860, 719
Brazil .....	77, 608	9, 092	86, 700
British North America .....	41, 938	580	45, 518
Australia .....	4, 163, 729	28, 209	4, 196, 938
New Zealand .....			
Other countries .....	204, 628	22, 137	226, 765
Total imports .....	17, 686, 174	9, 184, 980	26, 871, 154

## EXPORTS OF BULLION FROM LONDON.

Countries.	Gold.	Silver.	Total.
Belgium .....	£271, 282	£810	£272, 092
France .....	1, 692, 156	126, 411	1, 818, 567
Germany .....	334, 476	39, 257	373, 733
Holland .....	183, 910	6, 651	190, 561
Sweden and Denmark .....	203, 000	75	203, 075
Russia .....	2, 319, 486	8, 171, 002	10, 490, 488
Spain, Portugal, etc .....			
Gibraltar .....			
Malta .....			
Alexandria .....			
Aden .....			
Mauritius .....			
Ceylon .....			
Bombay .....			
Madras .....			
Caleutta .....	404, 711	404, 711	404, 711
Singapore .....			
Ponang .....			
Manilla .....			
Hong-Kong .....	1, 045, 000	1, 045, 000	1, 045, 000
Fow-chow-foo .....			
Yokohama .....	2, 409, 392	323, 929	2, 733, 321
Cape of Good Hope .....			
Cape Vord, Sierra Leone, etc .....	10, 300	31, 150	41, 450
United States .....			
Mexico, South America, etc. (except Brazil) .....	748, 528	259, 692	1, 008, 220
Brazil .....	3, 348, 462	62, 404	3, 410, 866
British North America .....	14, 938	20, 319	35, 257
Australia .....	297	47, 781	48, 078
New Zealand .....			
Other countries .....	485, 293	75, 265	560, 558
Total exports .....	14, 455, 318	10, 666, 312	25, 121, 630

*IMPORTS AND EXPORTS OF THE PRECIOUS METALS.*

**GOLD.**—The value of the foreign gold bullion imported into the United States during the calendar year 1889 was \$1,679,999.

Of this, \$490,336 came from the British possessions in North America, \$185,560 from Australasia, and the balance from South and Central American countries.

In addition to imports of foreign gold bullion, gold ores of the invoiced value of \$56,888 were brought into this country for reduction, all except a small amount coming from Mexico and Colombia.

Foreign gold coins were imported of the value of \$8,387,933, of which \$3,767,392 were from Australia, \$1,459,861 from France, \$1,630,073 from Germany, \$370,828 from England, \$318,832 from Mexico, \$607,508 from Cuba, \$141,247 from Colombia, and the remainder from various countries, principally of South America.

Our own gold coins were imported during the year of the value of \$1,936,700.

The total imports of gold into the United States during the calendar year may be summed up as follows:

GOLD IMPORTS 1889.	
Classes.	Value.
Foreign bullion.....	\$1, 679, 999
Foreign coin.....	8, 387, 933
Foreign ores.....	56, 888
Total foreign .....	10, 124, 820
United States coin .....	1, 936, 700
Total imports.....	12, 061, 520

There was exported from the United States, during the calendar year, domestic gold bullion of the value of \$40,518,521, of which \$39,402,004 consisted of United States bars and \$1,116,517 of other bars and bullion.

Of the gold bars exported, \$27,692,855 went to France, \$12,795,575 to England, \$17,800 to Germany, and \$12,291 to Hong-Kong.

Foreign gold bullion of the value of \$12,600 was re-exported to England, and foreign gold ores of the value of \$1,952 to Germany and England, while domestic gold ores were exported of the value of \$12,861, mostly to Germany.

The export of domestic ores for reduction has practically ceased, and the small quantity exported last year was principally samples of ores for assay.

Our own gold coin was exported to the value of \$4,784,976, of which \$2,528,326 went to Venezuela, the remainder going to Hong-Kong, Hayti,



San Domingo, the Hawaiian Islands, and other countries, principally of South and Central America, but a trifling amount going to Europe.

Foreign gold coins were re-exported of the value of \$5,617,363, of which \$4,367,312 went to Cuba, \$886,307 to England, \$258,790 to Brazil, and the remainder to various countries, principally of South America.

The movement of gold from the United States during the calendar year 1889 may be summarized as follows :

GOLD EXPORTS, 1889.	
Classes.	Values.
United States bars .....	\$39, 402, 004
Other domestic bullion .....	1, 116, 517
Domestic coin .....	4, 784, 976
Domestic ores .....	12, 861
Total domestic.....	45, 316, 358
Foreign bullion re-exported ..... \$12, 600	
Foreign coin re-exported..... 5, 617, 363	
Foreign ores re-exported..... 1, 952	
Total foreign .....	5, 631, 915
Total gold exports.....	50, 948, 273

From the above totals, it will be seen that there was a net loss of gold to the United States during the year by excess of exports over imports of the value of \$38,886,753.

**SILVER.**—The commercial value of the foreign silver bullion imported into the United States during the calendar year, as registered at the custom-houses, was \$5,453,534.

This bullion consisted of unparted bars, the bulk of it, \$4,636,174, coming from Mexico, \$736,304 from Colombia, \$16,623 from the British Possessions in North America, and the remainder principally from States of Central America.

In addition to the imports of foreign silver bars, silver ores were imported into the United States for reduction of the invoiced value of \$7,584,715.

The bulk of these ores also came from Mexico, the invoiced value from that country being \$7,381,513; \$161,084 from the British Possessions in North America, and the remainder principally from countries of South and Central America.

Most of these ores were what are known as silver-lead ores, containing in addition to silver large quantities of metallic lead, with some little gold and copper.

The following table has been compiled from statements kindly furnished by collectors of customs at frontier ports, for the purpose of exhibiting, approximately, the quantity and value of the metals contained in these ores :

APPROXIMATE STATEMENT OF THE QUANTITIES AND VALUES OF SILVER ORES IMPORTED INTO EACH CUSTOMS DISTRICT OF THE UNITED STATES DURING THE CALENDAR YEAR 1889, WITH THE QUANTITIES AND VALUES OF LEAD, COPPER, SILVER, AND GOLD CONTAINED IN THESE ORES, AS FAR AS COULD BE ASCERTAINED.								
Customs districts.	Total ore.	Lead contained.		Copper contained.		Commercial value of silver contained.	Value of gold contained.	Total value.
		Quantity.	Value.	Quantity.	Value.			
	<i>Pounds.</i>	<i>Pounds.</i>		<i>Pounds</i>				
Boston and Charlestown, Mass .....						\$2,000		\$2,000
Corpus Christi, Tex. ....	44,506,698	6,221,390	\$52,253			1,125,506	\$33,179	1,210,938
Duluth, Minn .....	28,800					7,800		7,800
Minnesota, Minn .....	27,730					15,000		15,000
New Orleans, La. ....	1,076,764					42,161	5,800	47,961
New York, N. Y. ....		27,569				497,685		497,685
Omaha, Nebr .....	33,644					1,750		1,750
Oswegatchie, N. Y. ....	161,540					118,230		118,230
Paso del Norte, Tex. ....								
and N. Mex .....	140,116,091	32,622,256	761,322	280,573	\$14,273	3,729,591	2,901	4,508,087
Saluria, Tex .....	55,543,040	14,295,587	187,898			626,644	17,526	832,068
San Francisco, Cal. ....						555,719		555,719
	241,494,307	53,166,802	1,001,473	280,573	14,273	6,722,086	59,406	7,797,238

NOTE.—Where the information is not given, it was impracticable to obtain it. The collectors of the customs districts of Minnesota, Oswegatchie, and San Francisco report that the ores returned by them did not contain any appreciable quantity of lead.

From this table it will be seen that the invoiced value of the silver in these ores, so far as can be ascertained with accuracy, was \$6,722,086, and that they contained 53,166,802 pounds of metallic lead, of the custom-house valuation of \$1,001,473.

Foreign silver coins were imported into the United States of the value of \$13,579,782, of which \$12,637,296 were Mexican dollars, the remainder coming from various countries, mainly South and Central America.

United States silver coins, principally subsidiary pieces, were imported of the value of \$185,946.

The total imports of silver into the United States during the year may be recapitulated as follows :

IMPORTS OF SILVER, 1889.	
Classes.	Value.
Foreign bullion (commercial value) .....	\$5, 453, 534
Silver in foreign ores (commercial value) .....	6, 722, 086
Foreign silver coin .....	13, 579, 782
Total foreign .....	25, 755, 402
United States silver coin (subsidiary) .....	185, 946
Total silver imports .....	25, 941, 348

There was exported from the United States during the calendar year domestic silver bullion of the commercial value of \$27,068,531, of which \$766,777 consisted of bars bearing the stamp of a United States mint or assay office, the remainder being bars of private refineries.

Of the silver bullion exported from the United States \$18,092,735 went to London, \$3,422,500 to Hong-Kong, \$3,394,900 to Japan, \$1,324,784 to the East Indies, \$221,660 (for refining) to Germany, and the remainder principally to South and Central America.

Foreign silver bullion was re-exported of the value of \$116,684, all going to London, and foreign silver ores of the value of \$35,784, together with domestic silver ores of the value of \$12,861.

Foreign silver coin was re-exported of the value of \$13,385,867, most of which consisted of Mexican dollars, of which \$9,281,871 went to Hong-Kong, \$2,471,949 to London, and the remainder to other countries.

Our own silver coin of the value of \$123,148 was exported.

The exports of silver during the year may be recapitulated as follows :

EXPORTS OF SILVER, 1889.	
Classes.	Value.
United States bars (commercial value) .....	\$766, 777
Domestic bullion (commercial value) .....	26, 301, 754
United States silver coin .....	123, 148
Total domestic .....	27, 191, 679
Foreign silver coin, re-exported .....	\$13, 385, 867
Silver, in foreign ores, re-exported .....	35, 784
Foreign silver bullion re-exported .....	116, 684
Total foreign .....	13, 538, 335
Total silver exports .....	40, 730, 014

From the above totals it will be seen that there was a net loss of silver to the United States during the year of \$14,788,666. The total



loss of gold and silver during the year, being the excess of exports over imports, was as follows :

LOSS OF GOLD AND SILVER TO THE UNITED STATES, 1889.	
Metals.	Value.
Gold.....	\$38, 886, 753
Silver.....	14, 788, 666
Total.....	53, 675, 419

In the Appendix will be found the usual tables showing, by customs districts, the movement of the precious metals to and from the United States, each month during the calendar year 1889.

The following table, compiled by the Bureau of Statistics, shows the countries from which the precious metals were shipped to the United States, during the year and the amount received from each :

STATEMENT, BY COUNTRIES, OF THE IMPORTS OF GOLD AND SILVER ORE, BULLION, AND COIN INTO THE UNITED STATES DURING THE YEAR ENDED DECEMBER 31, 1889.

## GOLD.

Countries from which imported.	Ore.	Bullion.	Coin.	
			United States.	Foreign.
Central American States:				
Costa Rica.....		\$2, 700	\$15, 610	\$298
Guatemala.....			1, 555	
Honduras.....	\$50	7, 281	390	
Nicaragua.....		52, 432	16, 960	1, 800
San Salvador.....	44		400	
Chili.....	25			
China.....				7, 700
Danish West Indies.....			14, 820	103
France.....			194, 943	1, 459, 861
French Possessions.....				8, 695
Germany.....		21	96, 643	1, 630, 073
England.....	49		96, 573	370, 828
Quebec, Ontario, Manitoba, and the Northwest Territory.....	2, 660	575	151, 629	6, 500
British Columbia.....	100	489, 761		
British West Indies.....		5, 300	151, 344	32, 709
British Honduras.....		15, 869	4, 870	340
British East Indies.....			435	16
British Possessions in Africa and adjacent islands.....				973
British Possessions in Australasia.....		185, 560	12, 246	3, 767, 392
Hawaiian Islands.....			15, 784	7, 786
Haiti.....		544	13, 864	
Japan.....			32, 000	
Mexico.....	34, 483	586, 098	190, 122	318, 832
Netherlands.....			4, 000	
Dutch West Indies.....		130	23, 868	484
Dutch Guiana.....	500	116	1, 500	



## STATEMENT, BY COUNTRIES, OF THE IMPORTS OF GOLD AND SILVER ORE, BULLION, AND COIN INTO THE UNITED STATES, ETC.—Continued.

## GOLD—Continued.

Countries from which imported.	Ore.	Bullion.	Coin.	
			United States.	Foreign.
Azores, Madeira, and Cape Verd Islands .....			\$70, 095	\$5, 072
San Domingo .....			76, 973	600
Cuba .....		\$3, 000	141, 138	607, 508
Porto Rico .....			4, 510	1, 259
Turkey in Europe .....		24		
United States of Colombia .....	\$18, 977	323, 259	540, 585	141, 247
Venezuela .....		1, 329	63, 843	17, 857
Total .....	56, 888	1, 679, 999	1, 936, 700	8, 387, 933

## SILVER.

Bolivia .....	\$28			
Brazil .....				\$1, 151
Central American States:				
Costa Rica .....		\$1, 781	\$147	4, 728
Guatemala .....		44, 201		
Honduras .....	1, 539	13, 912		35, 940
Nicaragua .....			648	1, 471
San Salvador .....		1, 784	600	
Chili .....	5, 110			
China .....	498		50	22
Danish West Indies .....			5, 338	5, 134
France .....				598
French Possessions .....				24, 740
Germany .....			4, 400	973
England .....		9	9, 733	123, 611
Nova Scotia, New Brunswick, and Prince Edward Island .....	2, 000			
Quebec, Ontario, Manitoba, and the Northwest Territory .....	141, 030	16, 623	19, 748	
British Columbia .....	18, 054			
British West Indies .....		160	22, 610	37, 791
British Honduras .....				362, 849
British East Indies .....				1, 527
British Possessions in Australasia .....	243			16, 138
Hawaiian Islands .....			1, 009	
Haiti .....			3, 906	31, 898
Japan .....	73			
Mexico .....	7, 381, 513	4, 636, 174	13, 352	12, 637, 296
Netherlands .....			1, 060	464
Dutch West Indies .....			12, 368	36, 406
Azores, Madeira, and Cape Verd Islands .....			438	5, 261
San Domingo .....		2, 586	26, 077	7, 084
Cuba .....			20, 713	102, 627
Porto Rico .....			3, 723	2, 104
United States of Colombia .....	34, 627	736, 304	38, 973	131, 710
Venezuela .....			1, 053	
All other islands and ports .....				8, 259
Total .....	7, 584, 715	5, 453, 534	185, 946	13, 579, 782

STATEMENT, BY COUNTRIES, OF THE IMPORTS OF GOLD AND SILVER ORE, BULLION,  
AND COIN INTO THE UNITED STATES, ETC.—Continued.

SUMMARY OF TOTALS.

Bolivia .....	\$28	British East Indies .....	\$1,978
Brazil .....	1,151	British Possessions in Africa and adjacent islands .....	973
Central American States:		British Possessions in Australasia ..	3,981,579
Costa Rica .....	25,264	Hawaiian Islands .....	24,579
Guatemala .....	45,756	Hayti .....	50,212
Honduras .....	59,112	Japan .....	32,073
Nicaragua .....	73,311	Mexico .....	25,797,870
San Salvador .....	2,828	Netherlands .....	5,524
Chili .....	5,135	Dutch West Indies .....	73,256
China .....	8,270	Dutch Guiana .....	8,116
Danish West Indies .....	25,395	Azores, Madcira, and Cape Verd Islands .....	80,866
France .....	1,655,402	San Domingo .....	113,320
French Possessions .....	33,435	Cuba .....	874,986
Germany .....	1,732,110	Porto Rico .....	11,596
England .....	600,803	Turkey in Europe .....	24
Nova Scotia, New Brunswick, and Prince Edward Island .....	2,000	United States of Colombia .....	1,965,682
Quebec, Ontario, Manitoba, and the Northwest Territory .....	338,765	Venezuela .....	84,082
British Columbia .....	507,915	All other islands and ports .....	8,259
British West Indies .....	249,914	Total .....	38,865,497
British Honduras .....	383,928		

The following tables, compiled from returns to the Bureau of Statistics, exhibit the different classes of specie exported from the United States during the year, and the countries to which consigned :

STATEMENT, BY COUNTRIES, OF THE EXPORTS OF DOMESTIC GOLD AND SILVER ORE, BULLION, AND COIN FROM THE UNITED STATES DURING THE YEAR ENDED DECEMBER 31, 1889.

Countries to which exported.	Gold.			Silver.			
	Bullion.		Coin.	Ore, gold and silver bearing.	Bullion.		Coin.
	United States mint or assay office bars.	Other bullion.			United States mint or assay office bars.	Other bullion.	
Brazil .....			\$3,080		\$142,000	\$80,000	.....
Central American States:							
Costa Rica.....			8,345				.....
Guatemala.....			6,000			19,000	.....
Honduras.....			8,353				\$1,000
Nicaragua.....			5,520				8,988
San Salvador.....			1,540				1,550
Chili.....			260				.....
China.....						370,452	.....
Ecuador.....			2,500				.....
France.....	\$27,692,855					221,660	2,000
Germany.....		\$17,800		\$11,164			.....
England.....	11,709,149	1,086,426	2,940	1,097	173,477	17,919,258	67,234
Scotland.....				600			.....
Quebec, Ontario, Manitoba, and N. W. Territory.....						500	.....
British Columbia.....							2,319
British West Indies.....			3,750				.....
British East Indies.....					192,000	1,132,784	.....
Hong-Kong.....		12,291	353,477		3,300	3,419,200	.....
Hawaiian Islands.....			721,445				1,150
Haiti.....			841,046				3,432
Japan.....					256,000	3,138,900	.....
Mexico.....			39,000				28,956
Dutch West Indies.....			16,000				.....
San Domingo.....			1,692				.....
Cuba.....			123,850				1,750
Porto Rico.....			15,000				3,650
United States of Colombia.....			102,852				1,119
Venezuela.....			2,528,326				.....
Total.....	39,402,004	1,116,517	4,784,976	12,861	766,777	26,301,754	123,148



## STATEMENT, BY COUNTRIES, OF THE EXPORTS OF DOMESTIC GOLD AND SILVER ORE, BULLION, AND COIN FROM THE UNITED STATES, ETC.—Continued.

## SUMMARY OF TOTALS.

Brazil.....	\$225,080	British Columbia .....	\$2,319
Central American States:		British West Indies .....	3,750
Costa Rica.....	8,345	British East Indies .....	1,324,784
Guatemala .....	25,000	Hong-Kong.....	3,788,268
Honduras.....	9,353	Hawaiian Islands.....	722,595
Nicaragua .....	14,508	Hayti.....	844,478
San Salvador .....	3,090	Japan .....	3,394,900
Chili.....	260	Mexico .....	67,956
China.....	370,452	Dutch West Indies .....	16,000
Ecuador .....	2,500	San Domingo .....	1,692
France.....	27,916,515	Cuba.....	125,600
Germany .....	28,964	Porto Rico.....	18,650
England .....	30,959,581	United States of Colombia .....	103,971
Scotland.....	600	Venezuela .....	2,528,324
Quebec, Ontario, Manitoba, and N. W. Territory .....	500	Total.....	72,508,037

## STATEMENT, BY COUNTRIES, OF THE EXPORTS OF FOREIGN GOLD AND SILVER ORE, BULLION, AND COIN FROM THE UNITED STATES DURING THE YEAR ENDED DECEMBER 31, 1889.

Countries to which exported.	Gold.			Silver.			Total.
	Ore.	Bullion.	Coin.	Ore.	Bullion.	Coin.	
Argentine Republic.....						\$11,483	\$11,483
Brazil .....			\$258,790			3,643	262,433
Central American States:							
Guatemala.....						340	340
Honduras.....						66,574	66,574
Nicaragua .....						167,452	167,452
San Salvador .....						35,772	35,772
Chili.....						2,578	2,578
China.....						291,000	291,000
Danish West Indies .....			29,846				29,846
France .....						22,000	22,000
Germany .....	\$1,000		4,473			33,287	38,760
England .....	952	\$12,600	886,307	\$17,496	\$116,684	2,471,949	3,505,988
British Columbia .....				18,288			18,288
British West Indies .....			2,848			735	4,583
British Honduras.....						750	750
Hong-Kong.....						9,281,871	9,281,871
Hayti.....			4,566			4,243	8,809
Japan .....						515,000	515,000
Mexico .....						98,250	98,250
Dutch West Indies.....			13,085			1,749	14,834
San Domingo .....			236			278,592	278,828
Cuba .....			4,367,312			600	4,367,912
United States of Colombia.....						22,594	22,594
Venezuela .....			48,900			75,405	124,305
Total .....	1,952	12,600	5,617,363	35,784	116,684	13,385,867	19,170,250

The following table exhibits the value of the imports and exports of gold and silver at the port of San Francisco during the calendar year 1889, and the countries to which and from which the metals were consigned:

IMPORTS AND EXPORTS OF GOLD AND SILVER BULLION AT SAN FRANCISCO DURING YEAR ENDED DECEMBER 31, 1889.

IMPORTS.

Countries.	Silver bullion.	Silver coin.	Gold bullion.	Gold coin.	Total.
British Columbia .....			\$489, 761		\$489, 761
Hawaiian Islands .....		\$1, 009		\$23, 570	24, 579
Mexico .....	\$2, 150, 657	691, 028	20, 365	67, 262	2, 929, 312
French Possessions .....		24, 740		8, 695	33, 435
British Possessions in Australia .....		16, 138	185, 560	3, 779, 638	3, 981, 336
All other islands and ports .....		8, 259			8, 259
San Salvador .....	1, 784	600		400	2, 784
Japan .....				32, 000	32, 000
Costa Rica .....	1, 781			1, 365	3, 146
China .....		72		7, 700	7, 772
Guatemala .....	44, 201			1, 555	45, 756
Total .....	2, 198, 423	741, 846	695, 686	3, 922, 185	7, 558, 140

IMPORTS AND EXPORTS OF GOLD AND SILVER BULLION AT SAN FRANCISCO DURING YEAR ENDED DECEMBER 31, 1889—Continued.

EXPORTS.

Countries.	Silver bullion.	Foreign silver coin.	Silver coin.	Gold bullion.	Gold coin.	Total.
Guatemala .....	\$19, 000				\$6, 000	\$25, 000
San Salvador .....					8, 345	8, 345
Chili .....		\$9, 935				9, 935
British East Indies .....	1, 282, 900					1, 282, 900
Hong Kong .....	3, 422, 500	7, 377, 302	\$1, 904, 569	\$12, 291	353, 477	13, 070, 139
Hawaiian Islands .....		1, 150			721, 445	722, 595
Japan .....	3, 394, 900	515, 000				3, 909, 900
Mexico .....		5, 000			8, 700	13, 700
Costa Rica .....					8, 345	8, 345
China .....	360, 452	291, 000				651, 452
Total .....	8, 479, 752	8, 199, 387	1, 904, 569	12, 291	1, 106, 312	19, 702, 311

The following table exhibits the imports of gold and silver at the port of New Orleans during the calendar year 1889:

IMPORTS INTO THE CUSTOMS DISTRICT OF NEW ORLEANS OF GOLD AND SILVER COIN AND BULLION DURING THE CALENDAR YEAR 1889.

Countries.	Gold.			Silver.			Total value.
	Foreign bullion.	Coin.		Foreign bullion.	Coin.		
		American.	Foreign.		American.	Foreign.	
Costa Rica.....	\$1, 600				\$4, 573	\$6, 173	
Honduras.....	8, 310	\$730		\$2, 074	106, 042	117, 156	
Nicaragua .....					\$476 1, 350	1, 826	
British Honduras.....	10, 149	530			287, 094	207, 773	
Mexico .....					6, 651	6, 651	
Cuba .....					1, 000	1, 000	
Colombia .....		267				267	
Total .....	20, 059	1, 527		2, 074	476 406, 710	430, 846	

*GOLD AND SILVER USED IN THE INDUSTRIAL ARTS IN THE UNITED STATES.*

Inquiry has been prosecuted, as heretofore, for the purpose of ascertaining the amount and value of the precious metals used in the industrial arts in this country during the calendar year 1889.

These inquiries have been confined to ascertaining from Government institutions and from private refineries the amount and value of the bars of gold and silver furnished to jewelers and manufacturers for industrial use. The mints and assay offices of the United States are required to ascertain the use for which gold and silver bars paid out are intended, and the books of these institutions are so kept as to show not only the amount and value of the bars furnished manufacturers during the year, but the character of the precious metals used in their composition, that is whether they are made from new bullion, from melted coins, or from old material.



The following table exhibits the value of the gold and silver bars furnished manufacturers and jewelers by the United States assay office at New York during the calendar year :

VALUE AND COMPOSITION OF BARS MANUFACTURED FOR USE IN THE INDUSTRIAL ARTS, ISSUED BY THE UNITED STATES ASSAY OFFICE AT NEW YORK DURING THE YEAR ENDED DECEMBER 31, 1889.

Material used.	Gold.		Silver.	
	Fine ounces.	Value.	Fine ounces.	Value.
Domestic bullion.....	389, 930. 624	\$8, 060, 581	3, 171, 567. 81	\$3, 523, 964
United States coin.....			797. 80	887
Foreign material.....	13, 966. 163	288, 706	589, 579. 38	655, 088
Old plate, jewelry, etc.....	90, 892. 418	1, 878, 914	268, 996. 49	298, 884
Total.....	494, 789. 205	10, 228, 201	4, 030, 941. 48	4, 478, 823

The following table exhibits the value and material employed in the manufacture of bars of gold and silver for use in the industrial arts by the mint at Philadelphia during the calendar year 1889 :

VALUE AND COMPOSITION OF BARS MANUFACTURED FOR USE IN THE INDUSTRIAL ARTS BY THE UNITED STATES MINT AT PHILADELPHIA DURING THE YEAR ENDED DECEMBER 31, 1889.

Material used.	Gold.		Silver.	
	Fine ounces.	Value.	Fine ounces.	Value.
United States coin.....	908. 471	\$18, 779. 00	.....	.....
Domestic bullion.....	28, 661. 009	592, 476. 00	.....	.....
Old plate, jewelry, etc.....	4, 199. 785	86, 817. 00	\$10, 849. 86	\$12, 055. 00
Foreign material.....	4. 645	96. 00	.....	.....
Total.....	33, 773. 910	698, 168. 00	10, 849. 86	12, 055. 00

For the purpose of ascertaining the amount of gold and silver contained in bars furnished by private refineries in the United States, for industrial use, a circular letter, inclosing a form of report, was addressed to forty-seven firms, believed to comprise all the firms in the United States engaged in the business of making bars of gold and silver. Replies have been received from thirty-eight of the firms addressed, of which twelve reported that no bars were manufactured by them during the year, while twenty-six furnished the Bureau with statements in detail showing the value and composition of the bars they made. It is thought that the nine not replying made no bars during

the year for industrial use, and that the returns on the part of private works may be said to be complete.

The result of this inquiry is exhibited in the following tables :

COMPOSITION OF BARS FOR INDUSTRIAL USE FURNISHED GOLDSMITHS AND OTHERS BY PRIVATE REFINERIES DURING THE CALENDAR YEAR 1889.

Material used.	Gold bars manufactured.		Silver bars manufactured.	
	Fine ounces.	Value.	Fine ounces.	Value.
United States coin.....	19, 742	\$408, 100	1, 149	\$1, 480
United States bars.....	81, 159	1, 677, 715	372, 105	481, 105
Domestic bullion, other than United States bars.	50, 009	1, 033, 770	2, 918, 929	3, 773, 969
Foreign coin and bullion.....	119	2, 456	2, 249	2, 909
Old plate, jewelry, and other old material.....	60, 625	1, 253, 240	232, 090	300, 076
Total .....	211, 654	4, 375, 281	3, 526, 522	4, 559, 545

Number of firms addressed .....	47	Number not manufacturing .....	12
Number replying .....	38	Number manufacturing.....	26

It will be noticed that “United States bars” were furnished by private refiners to goldsmiths and others during the year containing gold \$1,677,715, and silver \$481,105.

As these bars are included in those issued by the United States Assay Office at New York for use in the arts, they should be deducted from the amount reported by private refineries to prevent duplication.

Eliminating, therefore, “United States bars,” the following table exhibits the work of private refineries in this line :

COMPOSITION OF BARS FOR INDUSTRIAL USE FURNISHED GOLDSMITHS AND OTHERS BY PRIVATE REFINERIES DURING THE CALENDAR YEAR 1889.

Material used.	Gold bars manufactured.		Silver bars manufactured.	
	Fine ounces.	Value.	Fine ounces.	Value.
United States coin .....	19, 742	\$408, 100	1, 149	\$1, 480
Domestic bullion other than United States bars .	50, 009	1, 033, 770	2, 918, 929	3, 773, 969
Foreign coin and bullion.....	119	2, 456	2, 249	2, 909
Old plate, jewelry, and other old materia. ....	60, 625	1, 253, 240	232, 090	300, 076
Total .....	130, 495	2, 697, 566	3, 154, 417	4, 078, 440

The following table is a summary of the work of Government and private institutions in the preparation of bars for industrial use during the calendar year 1889:

RECAPITULATION OF THE VALUE OF THE GOLD AND SILVER BARS FURNISHED FOR USE IN MANUFACTURES AND THE ARTS DURING THE CALENDAR YEAR 1889 BY GOVERNMENT AND PRIVATE INSTITUTIONS, AND CLASSIFICATION OF THE MATERIAL USED.

Material.	Gold.	Silver.	Total.
United States coin.....	\$426, 879	\$2, 373	\$429, 252
Domestic bullion.....	9, 686, 827	7, 297, 933	16, 984, 760
Foreign coin and bullion.....	291, 258	657, 997	949, 255
Old material.....	3, 218, 971	611, 015	3, 829, 986
Total.....	13, 623, 935	8, 569, 318	22, 193, 253

For the purpose of comparison a table exhibiting the work of Government institutions and private refineries in this line during the calendar year 1888 is here presented:

GOLD AND SILVER BARS FURNISHED FOR USE IN MANUFACTURES AND THE ARTS DURING THE CALENDAR YEAR 1888, AND CLASSIFICATION OF THE MATERIAL USED.

Material.	Gold.	Silver.	Total.
United States coin.....	\$309, 183. 97	\$6, 259. 77	\$315, 443. 74
Domestic bullion.....	9, 893, 057. 06	6, 477, 856. 94	16, 370, 914. 00
Foreign coin and bullion.....	718, 808. 70	771, 985. 39	1, 490, 794. 09
Old material.....	2, 402, 975. 73	652, 046. 69	3, 055, 022. 42
Total.....	13, 324, 025. 46	7, 908, 148. 79	21, 232, 174. 25

It will be noticed that there is a slight increase in the value of the precious metals employed in the industrial arts in the United States last year over the year before, such employment being for the calendar year 1889: Gold, \$13,623,935, against \$13,324,025 in 1888; silver, \$8,569,318, against \$7,908,148 in 1888.

The amount of domestic bullion used in the composition of jewelers' bars was: Gold, \$9,686,827; silver, \$7,297,933; the latter corresponding to 6,090,496 fine ounces of silver, worth, at the average price of silver for the calendar year, about \$5,695,000.

The amount of United States gold coin reported as having been melted for use in the manufacture of bars for industrial purposes during the calendar year 1889 was \$426,879, against an estimated annual melting down of United States gold coin for industrial use, based on four censuses of actual consumption taken by this Bureau, of \$3,500,000.

Unless, therefore, there has been a decided falling off in the melting



down of coin for industrial purposes by jewelers and others, the value of the precious metals used in the industrial arts in the United States during the calendar year 1889 approximated \$16,697,000 gold and \$8,766,000 silver [coining value].

### STOCK OF MONEY IN THE UNITED STATES.

In continuation of the official tables presented from year to year in the reports of this Bureau of the stock of United States coin in the country, the following estimate, based upon previous tables, is presented for the date January 1, 1890.

OFFICIAL TABLE OF STOCK OF COIN IN THE UNITED STATES JANUARY 1, 1890.			
Items.	Gold.	Silver.	Total.
Estimated stock of coin January 1, 1889.....	\$607, 605, 686	\$392, 161, 422	\$999, 767, 108
Coinage, calendar year 1889.....	21, 413, 931	35, 496, 683	56, 910, 614
Net imports of United States coin, calendar year 1889.....	.....	62, 798	62, 798
Total.....	629, 019, 617	427, 720, 903	1, 056, 740, 520
Loss:			
Net exports of United States coin, calendar year 1889.....	2, 848, 276	.....	2, 848, 276
United States coin melted for recoinage, calendar year 1889.....	662, 278	758, 674	1, 420, 952
United States coin estimated to have been used in the arts, calendar year 1889.....	3, 500, 000	200, 000	3, 700, 000
Total.....	7, 010, 554	958, 674	7, 969, 228
Estimated stock of United States coin January 1, 1890.....	622, 009, 063	426, 762, 229	1, 048, 771, 292

The amount of silver coin deducted in the foregoing table as melted for recoinage, represents the face value of worn and abraded subsidiary silver coins transferred from the Treasury to the mints, and of mutilated and defaced pieces of the same class of coin sold the mint by individuals.

In addition, 50,158 silver dollars, most of them bearing date of coinage prior to 1873, were melted during the year, and 7,275 trade-dollars.

The silver dollars melted during the year have not been deducted from the stock in the country for the reason that, as the estimated stock of silver dollars represents only the number coined since the passage of the act of February 28, 1878, and no account by way of estimate was taken of any silver dollars which may have been in the country at the date of the passage of that act, the melting of silver dollars of dates of coinage anterior to 1878 does not affect the estimated stock.

All of the trade-dollars in the country were deducted from the stock of silver coin some years ago because not circulating as money.

In addition to the stock of our own coin in the country January 1, 1890, the value of the gold and silver bullion in the mints and assay offices belonging to the Government at that date was as follows:

GOLD AND SILVER BULLION IN MINTS AND ASSAY OFFICES, JANUARY 1, 1890.	
Metals.	Value.
Gold.....	\$67, 265, 944
Silver (cost).....	11, 626, 395
Total.....	78, 892, 339

Adding the bullion to the coin, the total metallic stock of the United States January 1, 1890, was as follows:

TOTAL METALLIC STOCK, JANUARY 1, 1890.	
Coin and bullion.	Value.
Gold .....	\$689, 275, 007
Silver .....	438, 388, 624
Total.....	1, 127, 663, 631

The estimated metallic stock at the commencement of the calendar year 1889 was as follows:

TOTAL METALLIC STOCK JANUARY 1, 1889.	
Metals.	Value.
Gold.....	\$705, 061, 975
Silver .....	403, 516, 756
Total.....	1, 108, 578, 731

From a comparison of these totals it will be seen that the stock of gold in the United States was reduced during the last calendar year \$15,786,968, while the stock of silver was increased \$34,871,868.

The reduction in the stock of gold is worthy of note for the reason that, since 1875, there has been an uninterrupted accumulation of gold in the United States, and the past year is the first to note a diminution.





The following table exhibits the estimated stock of metallic and representative money in the United States, and the location of the same, January 1, 1890:

## LOCATION OF THE MONEYS OF THE UNITED STATES, JANUARY 1, 1890.

Moneys.	In Treasury.	In national banks (December 11, 1889).	In other banks and general circulation.	Total.
<b>METALLIC.</b>				
Gold bullion.....	\$67, 265, 944	.....	.....	\$67, 265, 944
Silver bullion.....	11, 626, 395	.....	.....	11, 626, 395
Gold coin.....	246, 401, 951	\$71, 916, 467	\$303, 696, 645	622, 009, 063
Silver dollars.....	288, 535, 500	6, 459, 483	54, 943, 018	349, 938, 001
Subsidiary silver coin.....	21, 927, 927	4, 089, 243	50 807, 058	76, 824, 228
Total.....	635, 757, 717	82, 459, 193	409, 446, 721	1, 127, 663, 631
<b>PAPER.</b>				
Legal tender notes.....	*15, 673, 925	84, 490, 894	246, 516, 197	346, 681, 016
Old demand notes.....	.....	.....	56, 442	56, 442
Certificates of deposit.....	570, 000	9, 000, 000	.....	9, 570, 000
Gold certificates.....	31, 316, 100	77, 408, 260	45, 577, 629	154, 301, 989
Silver certificates.....	2, 252, 966	11, 422, 004	271, 527, 069	285, 202, 039
National-bank notes.....	†4, 500, 355	‡22, 780, 071	169, 949, 979	197, 230, 405
Total.....	54, 313, 346	205, 101, 229	733, 627, 316	993, 041, 891

\* Includes \$9,000,000 held for the redemption of certificates of deposit for legal tender notes, act of June 8, 1872.

† Includes \$4,367,102 in process of redemption.

‡ Includes \$2,391,264 of their own notes held by the different national banks.

For the purpose of comparison, a similar table is presented for January 1, 1889.

## LOCATION OF THE MONEYS OF THE UNITED STATES, JANUARY 1, 1889.

Moneys.	In Treasury.	In national banks (December 12, 1888).	In other banks and general circulation.	Total.
<b>METALLIC.</b>				
Gold bullion.....	\$97, 456, 289	.....	.....	\$97, 456, 289
Silver bullion.....	11, 355, 334	.....	.....	11, 355, 334
Gold coin.....	227, 854, 212	*\$78, 224, 188	\$301, 527, 286	607, 605, 686
Silver dollars.....	254, 406, 869	7, 086, 626	53, 792, 695	315, 286, 190
Subsidiary silver coin.....	23, 655, 458	3, 276, 200	49, 943, 574	76, 875, 232
Total.....	614, 728, 162	88, 587, 014	405, 263, 555	1, 108, 578, 731
<b>PAPER.</b>				
Legal-tender notes.....	†41, 125, 859	82, 555, 060	223, 000, 097	346, 681, 016
Old demand notes.....	.....	.....	56, 807	56, 807
Certificates of deposit.....	470, 000	9, 220, 000	1, 030, 000	10, 720, 000
Gold certificates.....	36, 127, 702	75, 334, 420	45, 554, 028	157, 016, 150
Silver certificates.....	3, 958, 567	8, 812, 844	237, 407, 155	250, 178, 566
National-bank notes.....	‡4, 068, 046	§24, 212, 370	205, 379, 611	233, 660, 027
Total.....	85, 750, 174	200, 134, 694	712, 427, 698	998, 312, 566

\* Includes \$7, 399, 000 clearing-house gold certificates.

† Includes \$10, 250, 000 held for redemption of certificates of deposit for legal-tender notes, act of June 8, 1872.

‡ Includes \$3,724,723 in process of redemption.

§ Includes \$2, 484, 132 of their own notes held by the different national banks.

Of the stock of our own gold coin shown by official statements to have been in the United States on January 1, 1890, the Treasury and its branches held \$246,401,951, in addition to \$67,265,944 of gold bullion, a total gold-holding by the Treasury of \$313,667,895.

The national banks held \$71,910,467, leaving \$303,696,645 as the amount of gold coin outside the Treasury and national banks, presumably held by private and State banks, in active circulation among the people and in private savings.

The number of silver dollars in actual circulation, that is, outside of the Treasury vaults, was \$61,402,501, against \$60,879,321 in circulation at the commencement of the year, while the number of silver dollars *owned* by the people, that is, silver dollars and silver certificates in actual circulation, aggregated \$344,351,574, against \$307,099,320 on January 1, 1889.

As gold coin is rarely seen in circulation outside the States of the Pacific slope, it is not surprising that grave doubts exist as to the presence of so large an amount in the country.

As throwing some light on this subject, a systematic effort was inaugurated under the auspices of this Bureau for the first time, about the commencement of the present calendar year, to ascertain the actual amount of gold coin held by private and State banks.

According to the Bankers' Almanac of July, 1889, the number of banks in the United States, the addresses of which are given, was as follows:

BANKS AND BANKERS IN THE UNITED STATES (JULY, 1889).

Character.	Number.
National.....	3, 236
State .....	2, 394
Savings*.....	613
Private †.....	4, 336
Total.....	10, 579

\*These are savings banks *proper*, organized for the benefit of *depositors*. In other States it is impossible to separate them from those benefiting *stockholders*.

† Brokers are not included in this list.

A circular letter signed by the Secretary of the Treasury, with a confidential form of report, was addressed to all of these (and other) banks and bankers, except national banks (which are required by law to report their holdings to the Comptroller of the Currency), requesting that they would report to this Bureau the single item of the amount of gold coin in the vaults of each at the close of business December 31, 1889.

The following is a copy of the circular and of the report asked for:

[Circular letter.]

TREASURY DEPARTMENT, OFFICE OF THE SECRETARY,  
Washington, D. C., December 6, 1889.

SIR: For the purpose of ascertaining the amount of gold held at a given date by banks other than national in the United States, it is respectfully requested that you will communicate to the Director of the Mint on the accompanying blank, in the official envelope herewith inclosed, the amount of gold coin held by your bank at the close of the present calendar year.

If favored with a reply, the information will be used only for the composition of aggregates, and will otherwise be treated as confidential.

Very respectfully,

WILLIAM WINDOM,  
Secretary.

Confidential report of the gold holdings of the bank ———, city of ———, State of ———, on the 31st day of December, 1889. Gold coin, \$———.

The DIRECTOR OF THE MINT,  
Washington, D. C.

The replies received have been tabulated by States as follows:

TABLE OF THE GOLD COIN HOLDINGS OF BANKS OTHER THAN NATIONAL IN THE UNITED STATES DECEMBER 31, 1889.

States and Territories.	State banks, private banks, and bankers.							Gold coin held December 31, 1889.
	Num-ber ad-dressed	Num-ber re-plying.	No coin held by those re-plying.	Merged into-national banks.	Out of busi-ness.	Re-turned by post-office as un-claimed	Unan-swered.	
Alabama .....	60	38	6	.....	.....	.....	22	\$149, 186. 00
Arizona .....	11	9	.....	.....	.....	.....	2	71, 295. 00
Arkansas .....	51	37	2	.....	1	.....	14	59, 005. 00
California .....	165	153	5	2	2	1	11	8, 862, 673. 50
Colorado .....	96	88	7	.....	4	1	7	310, 218. 50
Connecticut .....	30	17	4	.....	.....	1	12	99, 699. 50
Dakota .....	278	258	24	.....	7	1	19	172, 942. 00
Delaware .....	7	5	2	.....	.....	.....	2	11, 605. 50
District of Columbia .....	10	5	.....	.....	.....	.....	5	9, 659. 50
Florida .....	27	24	5	.....	.....	.....	3	32, 793. 00
Georgia .....	96	49	8	.....	.....	.....	47	178, 227. 00
Idaho .....	16	10	.....	.....	1	.....	6	47, 141. 50
Illinois .....	494	445	46	4	6	2	47	985, 675. 00
Indiana .....	197	186	17	.....	2	1	10	432, 810. 50
Indian Territory .....	5	5	.....	.....	1	.....	.....	19, 358. 00
Iowa .....	526	505	47	.....	6	1	20	703, 159. 00
Kansas .....	583	530	67	3	21	14	39	470, 794. 00
Kentucky .....	137	125	5	.....	1	1	11	369, 139. 00
Louisiana .....	24	13	2	.....	.....	.....	11	49, 911. 00
Maine .....	16	13	6	.....	.....	.....	3	1, 078. 50
Maryland .....	51	34	16	.....	.....	.....	17	25, 953. 50



TABLE OF THE GOLD COIN HOLDINGS OF BANKS OTHER THAN NATIONAL IN THE UNITED STATES DECEMBER 31, 1889—Continued.

States and Territories.	State banks, private banks, and bankers.							Gold coin held December 31, 1889.
	Num-ber ad-dressed.	Num-ber re-plying.	No coin held by those re-plying.	Merged into na-tional banks.	Out of busi-ness.	Re-turned by post-office as un-claimed	Unan-swered.	
Massachusetts.....	83	50	38	.....	.....	.....	33	\$3,812.50
Michigan.....	267	253	30	.....	4	3	11	418,290.50
Minnesota.....	234	220	16	1	1	2	12	729,034.50
Mississippi.....	36	32	4	.....	.....	.....	4	49,188.00
Missouri.....	347	329	19	3	6	.....	18	1,060,004.00
Montana.....	21	16	.....	.....	.....	.....	5	256,580.00
Nebraska.....	486	450	19	5	12	4	32	349,006.50
Nevada.....	13	9	.....	.....	.....	.....	4	324,067.50
New Hampshire.....	10	6	2	.....	.....	.....	4	1,850.00
New Jersey.....	22	15	2	.....	.....	.....	7	23,020.00
New Mexico.....	10	7	.....	.....	.....	.....	3	7,380.00
New York.....	394	337	48	.....	6	3	56	2,274,513.50
North Carolina.....	39	31	5	.....	.....	.....	8	42,885.50
Ohio.....	286	260	36	.....	.....	.....	24	535,339.50
Oregon.....	30	28	.....	.....	.....	.....	2	703,425.00
Pennsylvania.....	276	240	40	.....	.....	1	35	1,108,628.50
Rhode Island.....	18	15	7	.....	.....	.....	3	3,716.50
South Carolina.....	43	29	5	.....	.....	.....	14	18,814.50
Tennessee.....	78	75	5	.....	3	.....	3	157,012.50
Texas.....	147	129	13	6	3	.....	18	541,807.50
Utah.....	10	8	.....	.....	.....	.....	2	192,772.50
Vermont.....	2	2	1	.....	.....	.....	.....	120.50
Virginia.....	76	62	10	.....	.....	.....	14	82,363.00
West Virginia.....	31	28	1	.....	.....	.....	3	82,180.00
Washington.....	31	27	2	3	1	.....	4	506,407.50
Wisconsin.....	172	168	6	1	2	.....	4	728,919.50
Wyoming.....	11	11	1	.....	.....	.....	.....	73,635.50
Total.....	6,053	5,386	*579	*28	*90	36	631	23,337,119.50
State and private banks ..	6,053	5,386	579	28	90	36	631	23,337,119.50
Savings-banks, etc.....	1,419	1,307	434	8	5	2	110	7,875,297.50
Total.....	7,472	6,693	1,013	36	95	38	741	31,212,417.00

\* Included in number replying.

TABLE OF THE GOLD COIN HOLDINGS OF BANKS OTHER THAN NATIONAL IN THE UNITED STATES DECEMBER 31, 1889—Continued.

States and Territories.	Savings-banks, trust, deposit, and guaranty companies, and clearing-house associations.							Total gold coin held by banks other than national December 31, 1889.
	Number addressed.	Number replying.	No coin held by those replying.	Merged into national banks.	Out of business.	Returned by post-office as unclaimed.	Unanswered.	
Alabama .....	11	11	.....	.....	1	.....	.....	\$19,280.50
Arizona .....	1	1	.....	.....	.....	.....	.....	1,175.00
Arkansas .....	2	1	.....	.....	.....	.....	1	405.00
California .....	42	41	3	.....	.....	.....	1	2,611,743.00
Colorado .....	7	7	3	.....	.....	.....	.....	36,960.00
Connecticut .....	102	93	39	1	1	.....	9	76,312.50
Dakota .....	29	22	13	.....	1	1	6	10,217.50
Delaware .....	3	3	2	.....	.....	.....	.....	390.00
District of Columbia .....	2	2	1	.....	.....	.....	.....	450.00
Florida .....	6	3	1	.....	.....	.....	3	342.50
Georgia .....	13	9	1	.....	.....	.....	4	9,363.00
Idaho .....	.....	.....	.....	.....	.....	.....	.....	47,141.50
Illinois .....	25	24	7	1	.....	.....	1	412,920.50
Indiana .....	9	6	.....	.....	.....	1	2	10,272.50
Indian Territory .....	.....	.....	.....	.....	.....	.....	.....	19,358.00
Iowa .....	79	65	17	.....	.....	.....	14	172,774.00
Kansas .....	51	44	29	.....	.....	.....	7	24,010.50
Kentucky .....	12	12	3	.....	.....	.....	.....	104,295.00
Louisiana .....	3	2	.....	.....	.....	.....	1	6,867.50
Maine .....	62	62	18	1	.....	.....	.....	19,517.50
Maryland .....	25	18	9	.....	.....	.....	7	4,997.00
Massachusetts .....	200	199	92	1	1	.....	1	251,598.50
Michigan .....	52	52	3	.....	.....	.....	.....	285,763.00
Minnesota .....	12	9	4	.....	.....	.....	3	16,130.00
Mississippi .....	3	3	1	.....	.....	.....	.....	3,578.00
Missouri .....	73	69	12	.....	.....	.....	4	401,380.00
Montana .....	1	1	.....	.....	.....	.....	.....	38,136.00
Nebraska .....	22	18	4	.....	.....	.....	4	8,587.50
Nevada .....	.....	.....	.....	.....	.....	.....	.....	324,067.50
New Hampshire .....	70	69	29	2	.....	.....	1	22,273.00
New Jersey .....	34	32	11	.....	.....	.....	2	36,419.50
New Mexico .....	1	1	1	.....	.....	.....	.....	7,380.00
New York .....	175	162	62	2	1	.....	13	553,292.00
North Carolina .....	4	3	.....	.....	.....	.....	1	767.50
Ohio .....	43	43	7	.....	.....	.....	.....	108,376.00
Oregon .....	4	4	.....	.....	.....	.....	.....	276,940.00
Pennsylvania .....	93	88	10	.....	.....	.....	5	1,976,086.00
Rhode Island .....	36	35	25	.....	.....	.....	1	34,562.00
South Carolina .....	12	12	6	.....	.....	.....	.....	37,258.50
Tennessee .....	21	14	3	.....	.....	.....	7	29,848.50
Texas .....	9	4	1	.....	.....	.....	5	6,750.00
Utah .....	1	1	.....	.....	.....	.....	.....	50,000.00
Vermont .....	33	29	10	.....	.....	.....	4	10,406.50
Virginia .....	16	13	5	.....	.....	.....	3	13,342.00
West Virginia .....	3	3	1	.....	.....	.....	.....	6,445.00
Washington .....	7	7	.....	.....	.....	.....	.....	45,835.00
Wisconsin .....	10	10	1	.....	.....	.....	.....	109,264.50
Wyoming .....	.....	.....	.....	.....	.....	.....	.....	73,655.50
Total .....	1,419	1,307	*434	*8	*5	2	110	7,875,297.50

\* Included in number replying.

From an examination of the results of this inquiry, it will be seen that out of 7,472 banks addressed, including all the state banks, savings-banks, trust, deposit, and guaranty companies, and private banks and bankers in the United States, reports were received from 6,693, of which number 1,013 reported "No gold coin held."

Of the banks addressed, 36 had been merged into national banks, 95 had gone out of business, and the letters to 38 were returned by post-masters as unclaimed, leaving 741 as the number of banks reached which did not favor the bureau with the information sought.

The largest gold coin holdings reported by the banks of any single State or Territory was by California, aggregating \$11,474,416.50, and the smallest by the banks of New Mexico, aggregating \$7,380.

The amount of gold coin reported by the banks of New York City aggregated \$1,936,822.\*

The largest amount of gold coin held by any single bank was \$1,180.-386, and the lowest amount held by any bank reporting any gold holdings was \$2.50.

It is a matter of congratulation that the responses to this circular letter were so general, and that out of 7,473 banks addressed all that were reached, except 741, courteously furnished the information sought.

The thanks of the Department are due, and are most gratefully extended to the banks and bankers of the United States for their prompt response to the circular letter addressed them.

If the gold holdings of the banks which reported are a fair indication, proportionately, of the gold coin held by the banks which did not

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\*It will be remembered that the New York clearing-house association ceased issuing certificates for gold coin some time in 1838, the last of its certificates outstanding having been canceled in July, 1838.

The gold coin used for clearing-house purposes was formerly kept in the Bank of North America, but since the issue of clearing-house certificates ceased, the gold coin has been kept on deposit with the assistant treasurer at New York.

Gold Treasury certificates payable to order are now used to a considerable extent by national banks at financial centers for clearing-house purposes. They were first issued November 27, 1838.

On June 30, 1889, the following denominations and amounts of these certificates (payable to order) were outstanding, viz :

\$5,000 certificates .....	\$16,735,000
\$10,000 certificates .....	28,680,000

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Total certificates payable to order.....	45,415,000
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The clearing-house association of Philadelphia still issues certificates for gold deposited with it, the Farmers and Mechanics' National Bank of that city being the depository for such gold.

On February 28, 1890 (date of last call for reports of condition from national banks), the Philadelphia banks reported that they held gold clearing-house certificates amounting to \$4,915,000, although the clearing-house association reports \$5,085,000 as actually outstanding at the same date.

In addition to the \$4,915,000 reported as held by the Philadelphia banks on February 28, 1890, the banks at Los Angeles, Cal., reported \$43,000 gold clearing-house certificates held by them at same date, and these two items make up the total of \$4,958,000 "gold clearing-house certificates" appearing in abstract of reports of condition of all national banks on February 28, 1890.



report, the amount of gold coin held by all the banks in the United States, exclusive of National, may be placed at \$34,000,000.

It may be interesting to present by way of comparison the official tables of the stock of United States gold coin in the country side by side with the visible stock at the same date.

#### METALLIC STOCK JANUARY 1, 1890 (OFFICIAL TABLES).

United States gold coin .....	\$622,009,063
Gold bullion in mints and assay offices.....	67,265,944
Total estimated metallic stock.....	\$689,275,007

#### VISIBLE STOCK.

In United States Treasury and branches :

Gold coin .....	\$246,401,951
Gold bullion .....	67,265,944
Total in the Treasury .....	313,667,895
In national banks .....	71,910,467
In other banks.....	34,000,000
Total visible stock .....	419,578,362
Difference .....	269,696,645

From this it will be seen that the excess of our gold coin estimated to be in the United States above the *visible* stock was \$269,696,645.

In view of this wide difference between the estimated and visible stock of gold coin it may not be inappropriate to briefly explain the methods which have been employed by this bureau in preparing the estimates which have been put forth from year to year, commencing with 1873, as to the stock of gold coin in the country.

The foundation on which these estimates were built was the actual amount of gold in the Treasury and in national banks on June 30, 1872, with an addition of \$20,000,000 as an estimate of the minimum amount of gold coin in circulation in the States of the Pacific slope.

According to the official reports of the Treasurer of the United States and the Comptroller of the Currency, there were held by the Treasury and its branches and by national banks on June 30, 1872, \$98,389,864 in gold coin and \$15,669,981 in gold bullion, the latter being in the mints and assay offices at that date.

No account was taken, in the stock of 1873, of the amount of coin held by banks other than national, nor of the amount in the possession of the people, aside from the Pacific coast, so that the initial estimate was *below* the actual amount.

The time selected for the commencement of these official tables was favorable, for the reason that the United States was then, and had been for over twelve years, on a paper basis, and the visible stock of coin, aside from the amount in circulation in the States and Territories of the Pacific slope, where paper money had not been accepted, was in the Treasury and in banks.

Since that date, the official tables presented from year to year have been compiled by adding to the actual stock June 30, 1872, the annual coinage of our mints less the amount of our own coins melted down for recoinage, and the gain (or loss) by import and export of our gold coin, with an annual allowance for melting of United States coin for use in the arts and industries.

So far as the coinage of the mints is concerned and the amount melted for recoinage, the figures employed are beyond question.

How accurate the record at the custom-houses of the movement of our coins, by way of import or export, has been, it is difficult to say, but it is believed that, for recent years at least, the movements of coin have been so carefully recorded that no error of any considerable magnitude can have crept in.

The elements of uncertainty in these official tables have been, first, the actual consumption of coin in the industrial arts, and second, the amount of coin which finds its way out of the country without being recorded.

In regard to the first it may be said that the annual allowance of \$3,500,000 as the amount of our own gold coin used in the industrial arts, is based upon four special censuses taken by the Bureau of the Mint as to the direct employment of the precious metals by goldsmiths, jewelers, and others. The melting of *coin* for industrial use is principally by jewelers for the manufacture of small articles of ornament and for repairs, and it is believed that the sum of \$3,500,000 is above rather than below the amount annually employed for the purpose.

With respect to the second item, the specie withdrawn from the country without being made a matter of record, it may be said, that it is impossible to form any correct estimate as to the amount.

Dr. Henry R. Linderman, the first Director of the Mint, thought that it would be safe to assume that the amount of our coin taken out by private hands was fully offset by the amount brought into the country in the same way. On this subject he said :

The amount carried out of the country by persons visiting Europe is, there are reasons to believe, generally estimated too high, especially since the system of letters of credit has become so widely extended, and which, with bills of exchange, have rendered the carrying of coin from one country to another entirely unnecessary, particularly as respects the several countries which are associated in modern civilization.

On the other hand, the amount of coin brought into the United States by emigrants is probably underrated. That class of people are always disposed to carry a portion of their effects in the form of gold and silver coin, with the value of which they are familiar, and with the knowledge that the same will be freely received everywhere in exchange for any article they may require.

This opinion has been entertained by my predecessors, and, possibly in view of the impracticability of forming any correct idea as to the loss or gain in this way, it has been arbitrarily assumed that the amount of United States gold coin carried out of the country by travelers is fully offset by the amount brought in by immigrants and others.

It is a well-known fact, however, that most of the gold exchanged by immigrants arriving at Castle Garden is *foreign* coin.



It is also a fact known to every one that the number of travelers leaving the United States is yearly growing larger.

In my last fiscal report I endeavored to show that the large shipments of gold from this country to Europe during that year were occasioned by unusual expenditures by Americans abroad, principally on account of the Paris Exposition, and that most, if not all, of the gold which left us went to the Bank of France. .

From information kindly furnished by leading bankers of New York City, it was ascertained that the average amount used on letters of credit issued by eight leading banking houses of that city to Americans going abroad was \$1,500.

Allowing \$1,000 as the average amount expended by cabin passengers and \$150 by third-class passengers departing at the port of New York alone during that year, it was estimated that the expenditures by passengers from New York to Europe during the last fiscal year aggregated \$92,000,000.

Since the publication of that report, I have been able to obtain from the Bureau of Statistics additional information as to the number of passengers departed during last year from ports other than New York, showing the total number of passengers who departed for Europe during the last fiscal year to have been 204,839, of whom 82,019 were cabin passengers and 122,820 passengers other than cabin. So that the estimate of \$92,000,000 as approximating the amount expended by Americans abroad during that year, based upon the number leaving the port of New York alone, fell short of the actual fact.

The following table, compiled from data furnished by the Bureau of Statistics, shows the number of persons arriving and departing from the United States during each of the fiscal years 1873-'89 :

NUMBER OF PASSENGERS ARRIVING IN, AND DEPARTING FROM, THE UNITED STATES, 1873-'89.

Fiscal years.	United States citizens returning.	Non-immigrant aliens.	Immigrants.	Total passengers arrived.	Total passengers departed.
1873.....	47, 744	13, 338	459, 803	520, 885	119, 154
1874.....	47, 730	14, 610	313, 339	375, 679	134, 686
1875.....	50, 898	17, 134	227, 498	295, 530	160, 786
1876.....	48, 000	20, 005	169, 986	237, 991	131, 618
1877.....	41, 484	23, 162	141, 857	206, 503	136, 549
1878.....	41, 671	19, 307	138, 469	199, 447	125, 533
1879.....	55, 256	20, 128	177, 826	253, 210	117, 385
1880.....	50, 269	26, 939	457, 257	534, 465	109, 007
1881.....	48, 549	25, 732	669, 481	743, 712	112, 072
1882.....	52, 872	27, 280	788, 992	869, 144	133, 496
1883.....	67, 283	41, 910	603, 322	712, 515	157, 954
1884.....	88, 928	41, 971	518, 592	649, 491	187, 706
1885.....	97, 251	42, 412	395, 346	535, 009	243, 890
1886.....	86, 380	23, 720	334, 203	444, 303	201, 293
1887.....	92, 347	22, 929	490, 109	605, 385	193, 897
1888.....	95, 529	20, 621	546, 889	663, 039	211, 212
1889.....	81, 241	20, 845	444, 427	546, 513	239, 557



From a comparison of the years 1873 and 1889, it will be seen that the number of passengers who left this country last year was more than double the number in 1873.

What amount of our own gold was taken out by these travelers, it is impossible to say, but it seems probable that it must have been very considerable, and that the loss of gold in this way must be an item of no little magnitude.

It has been thought that our gold may have left us through Canada or the adjoining countries of this continent, by railroads, of which no record was obtained. The recorded movement of specie, as well as the movement indicated by data furnished by prominent banks of New York having large dealings with the Dominion of Canada, shows, however, that the exchange of gold with Canada is largely in favor of the United States.

The South American Republics being almost exclusively silver-using countries, it is not believed that any considerable amount of gold has gone thither without being recorded.

The presumption, therefore, is almost conclusive that either gold coin has left the country without being recorded, or a very large amount is hoarded by the people of the United States, in the shape of keepsakes and private savings.

The following table has been compiled from the latest data attainable, for the purpose of exhibiting by way of comparison the stock of gold, silver, and paper money *in circulation* in the United States and in the three principal countries of Europe:

ESTIMATE AMOUNT OF GOLD, SILVER, AND NOTES IN CIRCULATION IN THE UNITED KINGDOM, FRANCE, GERMANY, AND THE UNITED STATES.

Countries.	Popula- tion.	Gold circula- tion.	Silver circula- tion.	Notes out- standing.	Total metal- lic and paper.	Per capita circulation.			
						Gold.	Silver.	Paper.	Total.
France .....	38, 250, 000	\$900, 000, 000	\$700, 000, 000	\$594, 000, 000	\$2, 194, 000, 000	\$23. 53	\$18. 30	\$15. 53	\$57. 36
United King- dom .....	38, 165, 000	550, 000, 000	100, 000, 000	190, 000, 000	840, 000, 000	14. 41	2. 62	4. 98	22. 01
Germany .....	48, 000, 000	500, 000, 000	215, 000, 000	275, 000, 000	990, 000, 000	10. 42	4. 48	5. 73	20. 63
United States	64, 000, 000	375, 607, 112	118, 298, 802	938, 728, 545	1, 430, 634, 459	5. 87	1. 82	14. 67	22. 36

In compiling this table the metallic reserves of the Banks of the United Kingdom, the Bank of France, and the Imperial Bank of Germany have been included in the amount of gold and silver in circulation, and the total bank notes outstanding in the amount of paper money in circulation, whereas in the United States the entire amount of gold and silver in the Treasury has been deducted.

This is an important fact to be considered in making comparisons between the amount of money in circulation in this and European countries.

In European statistics of circulation it is customary to deduct from the bank-notes in circulation the metallic reserves held by the banks for their redemption against which the notes are issued, and to class as in circulation only the "uncovered" notes.

This is done to prevent double employment, as both the notes issued and the specie held for their redemption do not perform the duty of a circulating medium at the same time.

Following this method, which is that used by Dr. Soetbeer and other European statisticians, the following table has been compiled showing the amount of metallic money and "uncovered" notes in three of the principal countries of Europe and in the United States:

STOCK OF GOLD, SILVER, AND UNCOVERED NOTES IN THE UNITED KINGDOM, FRANCE, GERMANY, AND UNITED STATES.

Countries.	Popula- tion.	Gold stock.	Silver stock.	Uncovered notes.	Total metal- lic and un- covered stock.	Per capita.			
						Gold.	Silver.	Paper.	Total.
France .....	38, 250, 000	\$900, 000, 000	\$700, 000, 000	\$104, 000, 000	\$1, 704, 000, 000	\$23. 53	\$18. 30	\$2. 72	\$44. 55
United King- dom .....	38, 165, 000	550, 000, 000	100, 000, 000	60, 000, 000	710, 000, 000	14. 41	2. 62	1. 57	18. 60
Germany ....	48, 000, 000	500, 000, 000	215, 000, 000	150, 000, 000	865, 000, 000	10. 42	4. 48	3. 12	18. 02
United States	64, 000, 000	689, 275, 007	438, 388, 624	432, 793, 583	1, 560, 457, 214	10. 77	6. 85	6. 76	24. 38

In this table the gold certificates outstanding are embraced in the gold stock and the silver certificates in the silver stock, and both amounts have been deducted from the amount of paper money outstanding.

From the legal-tender notes outstanding has been deducted \$100,000,000 of gold coin held in the Treasury for their redemption, leaving as the amount of "uncovered" paper money in the United States \$231,007,091 legal-tender notes, \$192,730,050 national bank notes, \$9,000,000 certificates of deposit for legal-tender notes, and \$56,442 "old demand" notes, a total of \$432,793,583.

#### THE WORLD'S COINAGE.

The coinage of gold and silver executed during the calendar years 1887 and 1888, by each of the nations of the world, is exhibited in a table in the Appendix, and is believed to contain the coining value of all the gold and silver coinages executed during those years.

The coinages executed by different nations during the calendar year 1889, so far as reported, are presented in the same table, but the statistics of coinage for that year are not complete.



The following summary is presented :

WORLD'S COINAGE.		
Calendar years.	Gold.	Silver, coining value.
1887.....	\$124, 992, 465	\$163, 411, 397
1888.....	134, 827, 740	134, 922, 344
1889.....	167, 731, 286	132, 280, 659

The aggregate amount of coinage each year does not correctly represent the value of the annual product of gold and silver employed in coinage, for the reason that the coinages reported include recoinages of both domestic and foreign coin, as well as old material employed in coinage.

The data covering the recoinages of the calendar year 1889 are not sufficiently complete to afford any fair presentation of the amount of old coins melted down.

The following *revised* table of recoinages for the calendar year 1888 has been compiled from information furnished by foreign governments:

RECOINAGES REPORTED BY CERTAIN COUNTRIES, 1888.

Countries.	Gold.	Silver.
United States.....	\$507, 916	\$460, 300
Great Britain .....	8, 163, 388	1, 146, 941
Canada .....		17, 174
Australia .....	483, 433	
India .....	2, 848	2, 949, 848
France.....		1, 112, 379
Switzerland.....	16, 984	
Spain .....		4, 436, 804
Portugal.....		1, 036, 800
Germany.....	16, 321, 492	989, 127
Denmark .....		8, 040
Turkey .....	66, 000	74, 448
Egypt.....		81, 483
Mexico .....		337, 558
Colombia .....		662, 069
Brazil.....		202, 278
Total .....	25, 562, 061	13, 516, 249

THE WORLD'S PRODUCTION OF GOLD AND SILVER.

In the Appendix will be found a table compiled from information furnished by foreign governments and from reliable statistical authorities, exhibiting the product of gold and silver in the principal countries of the world for the calendar years 1887, 1888, and 1889.

The product is expressed in weight and value. Mainly for the purposes of comparison the value of the silver product has been given at its coining value.



A summary of the product of gold and silver in the world for each year, 1873-'89, is here presented, both the commercial and coining value of the silver:

PRODUCTION OF GOLD IN THE WORLD FOR THE CALENDAR YEARS 1873-1889.

Calendar years.	Value.	Calendar years.	Value.
1873.....	\$96, 200, 000	1882.....	\$102, 000, 000
1874.....	90, 750, 000	1883.....	95, 400, 000
1875.....	97, 500, 000	1884.....	101, 700, 000
1876.....	103, 700, 000	1885.....	108, 400, 000
1877.....	114, 000, 000	1886.....	106, 000, 000
1878.....	119, 000, 000	1887.....	105, 302, 000
1879.....	109, 000, 000	1888.....	109, 928, 000
1880.....	106, 500, 000	1889.....	118, 832, 000
1881.....	103, 000, 000		

PRODUCTION OF SILVER IN THE WORLD FOR THE CALENDAR YEARS 1873-1889.

Calendar years.	Fine ounces (Troy).	Commercial value.	Coining value.
1873.....	63, 267, 000	\$82, 120, 000	\$81, 800, 000
1874.....	55, 300, 000	70, 673, 000	71, 500, 000
1875.....	62, 262, 000	77, 578, 000	80, 500, 000
1876.....	67, 753, 000	78, 322, 000	87, 600, 000
1877.....	62, 648, 000	75, 240, 000	81, 000, 000
1878.....	73, 476, 000	84, 644, 000	95, 000, 000
1879.....	74, 250, 000	83, 383, 000	96, 000, 000
1880.....	74, 791, 000	85, 636, 000	96, 700, 000
1881.....	78, 890, 000	89, 777, 000	102, 000, 000
1882.....	86, 470, 000	98, 230, 000	111, 800, 000
1883.....	89, 177, 000	98, 986, 000	115, 300, 000
1884.....	81, 597, 000	90, 817, 000	105, 500, 000
1885.....	91, 652, 000	97, 564, 000	118, 500, 000
1886.....	93, 276, 000	92, 772, 000	120, 600, 000
1887.....	96, 189, 000	94, 265, 000	124, 366, 000
1888.....	110, 086, 453	103, 481, 000	142, 334, 000
1889.....	126, 000, 000	117, 810, 000	162, 915, 000

AUSTRALASIA.

Through the kindness of Mr. George Anderson, deputy master of the Melbourne branch of the Royal Mint, I am enabled to present the statistics of the product of the precious metals in Australia and New Zealand for the calendar years 1888 and 1889 :

ESTIMATED PRODUCTION OF GOLD AND SILVER IN AUSTRALIA AND NEW ZEALAND DURING THE YEAR 1888, FROM RETURNS KINDLY FORWARDED BY THE GOVERNMENT OF EACH COLONY.

Colony.	Gold.	Silver.
	<i>Ounces.</i>	<i>Ounces.</i>
Now South Wales .....	87, 503	*375, 063
New Zealand .....	201, 219	403
Queensland .....	481, 643	(†)
Tasmania .....	39, 610	.....
South Australia .....	†16, 763	.....
Victoria.....	625, 026	27, 331
West Australia.....	§50, 000	.....
Total .....	1, 501, 764	402, 797

\* In addition 29,841 tons of silver and lead.  
† 1,190 tons of silver and lead.  
‡ No reliable information obtainable. Amount here given shows the quantity received at the mints in Australia.  
§ Approximate.

APPROXIMATE ESTIMATE OF THE PRODUCTION OF GOLD AND SILVER IN AUSTRALIA AND NEW ZEALAND DURING THE YEAR 1889, FROM RETURNS KINDLY FORWARDED BY THE GOVERNMENT OF EACH COLONY. .

Colony.	Gold.	Silver.
	<i>Ounces.</i>	<i>Ounces.</i>
Now South Wales.....	112, 948	*416, 845
New Zealand .....	203, 211	24, 105
Queensland .....	740, 209	(†)
South Anstralia.....	‡20, 000	.....
Tasmania .....	33, 050	12, 000
Victoria .....	614, 839	(†)
West Anstralia .....	15, 493	.....
Total .....	1, 739, 750	453, 000

\* In addition 81,544 tons of silver-lead and silver ore of the value of £1,899,197.  
† Returns not yet complete.  
‡ No reliable information obtainable ; approximate only.

As has been explained in previous reports of this series, in the case of gold the ounces in these statements are *gross* ounces, that is, the weight of the alluvial or retorted gold as obtained from the mines.

This bullion runs about 95 per cent. of pure gold, based on an average of assays at the Melbourne mint, and there is an average loss of from 2½ to 3 per cent. in the melting of alluvial or machine gold ; so that a de-

duction of about 8 per cent. is necessary to be made from the *gross* weight in order to obtain the amount of *pure* gold actually produced in Australasia. Making these deductions, the product for the calendar years 1888 and 1889, as reported by Mr. Anderson, was as follows :

## REPORTED PRODUCTION OF GOLD AND SILVER IN AUSTRALASIA.

Years.	Gold.		Silver.	
	Ounces.	Value.	Ounces.	Coining value.
1888.....	1, 381, 622	\$28, 560, 661	402, 797	\$520, 788
1889.....	1, 600, 570	33, 086, 716	453, 000	585, 697

The large increase in the production of silver in Australasia, during the last two years, is noteworthy, but scarcely a matter of surprise to those who have followed closely the mineral development of that part of the world. Greater attention would probably have been earlier paid to the development of the silver mines known to exist in that region, were it not that the more remunerative working of the many gold mines absorbed nearly all the capital and energy that took the direction of the mining of the precious metals in Australasia.

The production of silver, properly speaking, began in Australia in 1881, but has suffered a great many interruptions. At present, the most important silver mine, that of Broken Hill, belongs, from a geographical point of view, to New South Wales, but is economically and from a business point of view entirely dependent on Adelaide, in South Australia, and accordingly the latter reaps the advantages of its silver industry. The value of the silver obtained in Australia up to the end of 1887 amounted to :

In New South Wales .....	£1,806,349
In Queensland.....	314,557
In South Australia .....	201,043
In Victoria .....	64,893
Total .....	2,386,842

From the Australian Handbook for 1890 we extract the following additional data.

The total quantity of silver exported from New Zealand up to December 31, 1888, was 497,868 ounces, valued at £124,792. Silver has been found in that colony in various localities, and occurs mixed with the gold from the Te Aroha, Thames, and Coromandel fields. During 1888, 403 ounces, of the value of £71, were exported.

In Queensland the total value of the silver ore produced up to December 31, 1888, was £358,572, representing 18,950 tons. Silver is found in the Herberton, Ravenswood, Burketown, and Gayndah districts.

In New South Wales, silver was not found in any great quantity until recently, when rich fields were discovered at the Barrier Ranges in the



Albert district, and Sunny Corner, in the western district, where extensive works are now in progress, and indications of silver have been found in nearly all parts of the colony. The result of operations there, in 1888, showed a considerable increase over the preceding year. The results obtained by the Broken Hill proprietary company have induced a considerable amount of prospecting. During that year this proprietary company raised and treated 94,125 tons of ore. The bullion obtained therefrom was 16,779 tons, yielding 3,924,192 ounces of silver, and 16,658 tons of lead, the gross value being £927,877. The quantity raised from all [other] mines during 1888 alone was 375,063 ounces, valued at £66,668.

There are silver mines in Victoria, at St. Arnaud and Bethanga. During 1888, there were extracted from gold at the mint 27,331 ounces of silver, and 2,000 ounces were exported.

In South Australia the silver-lead mines are mostly situated in the southern part of the colony, near Cape Jervis. Silver-lead has also been found near Kapunda. Several years ago, the metal was found in various places, in the hills about 20 miles to the southeast of Adelaide; but all these mines, including the Alexandria, which yielded a considerable quantity of silver, have long been abandoned. Silver mines recently resumed working at Glen Osmond, 5 miles southeast of Adelaide.

Lastly, in Tasmania, discoveries of silver have been made at Whyte River and Mount Zeehan, on the west coast. At Mount Zeehan, no less than 24,000 acres have been applied for, for silver mining, and the deposit of the metals is described as very considerable. At Whyte River the claim known as Godkins has been thoroughly tested and a high average return obtained.\*

It will be noticed that in the statement of the production of Australia for 1888, furnished by Mr. Anderson, in addition to the silver bullion, 402,797 gross ounces, reported for that year, 29,841 tons of silver and lead were produced in the province of New South Wales, and 1,190 tons of silver and lead in Queensland.

So for the calendar year 1889, in addition to the silver bullion reported, 453,000 gross ounces, 81,544 tons of silver-lead and silver ores of the value of £1,899,197 (\$9,242,442) were produced in New South Wales.

From the report of the Broken Hill Proprietary Company of the Barrier Range, New South Wales, the largest silver-lead producing property in Australasia,† the silver extracted from 67,741 net tons of lead ore was 2,677,686 ounces, an average of 39.38 ounces of silver per ton. If this percentage holds good for the ores produced in New South Wales in 1889, the silver contents of the 81,544 tons of silver-lead ore produced during the calendar year 1889, reported by the governor of that province, was 3,211,202 ounces of silver, which amount is additional to the silver bullion reported.

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\* Compare Australian Handbook, 1890.

† Engineering and Mining Journal, New York, October 5, 1889.

The returns from the Broken Hills Proprietary Company of Australia for the first half of the calendar year 1889 show a production of 2,677,686 ounces of silver. In the second half of the same year the production was larger, but the report is not at hand. For the month of January of the present year (1890) the returns from the same property show a product of 701,281 ounces of silver.

The other mines in the Broken Hills district are producing about 140,000 ounces of silver a month, according to official returns. The production of the three leading companies in the Broken Hills district in the month of July last was 721,412 ounces of silver, at which rate the product of the year would have aggregated 8,656,944 ounces.

From these figures it would seem as if the production of silver in Australasia during the calendar year 1889 was not less than 8,500,000 ounces.\*

The silver product of Australasia for the calendar year 1888 was placed at \$5,000,000.

As it is known that the product increased largely last year, in the absence of definite statistics it has been placed at \$6,000,000, which is believed to be below the actual product.

#### MEXICO.

The following dispatch from our minister to Mexico, in response to an inquiry from the Secretary of State, places the product of silver in Mexico during the calendar year 1889 at 42,939,156 fine ounces, considerably larger than for any previous year—nearly 11,000,000 ounces more than in 1888:

DEPARTMENT OF STATE,  
Washington, D. C., April 24, 1890.

E. O. LEECH,

*Director of the Mint:*

Following telegram received from American minister at Mexico to-day:

"The best approximation attainable of the Mexican product of silver in the calendar year 1889, 42,939,156 fine ounces (inclusive of the silver exported in ores). This does not include silver wrought into the arts, nor silver bars retained in the possession of producers, deposited with banks, nor silver clandestinely exported. Extraction and mint charges, in the aggregate  $4\frac{1}{2}$  per cent., are said to be the incentive for the surreptitious exportation of large quantities. \* \* \*

"The best data obtainable is indefinite and unsatisfactory.

"RYAN."

JAMES G. BLAINE,

*Secretary.*

The following letter from our minister to Mexico, inclosing a communication from Mr. Javier Stavoli, chief of the bureau of statistics

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\* The statistics in the first three paragraphs on this page have been furnished by Mr. R. P. Rothwell, of the Engineering and Mining Journal, New York. While I have no reason to doubt the accuracy of the data, in the absence of direct returns to the Bureau indicating so large a product of silver, I have not felt justified in placing that product, for the calendar year 1889, at over \$6,000,000.



of the treasury department of the Mexican Government, explains in detail the foregoing estimate of the product of silver from the mines of Mexico for the last calendar year:

LEGATION OF THE UNITED STATES,

*Mexico, April 23, 1890.*

SIR: Upon receipt of your telegram of the 19th instant, to wit: "Ascertain from Mexican Government, for statistical use by Director of the Mint, the total product in round ounces of fine silver in Mexico in 1889," I sent a member of this legation at once to the Mexican treasury department for the information.

Mr. Javier Stavoli, chief of the bureau of statistics of the treasury department, stated that on the next day he would send the data to this legation, and I have the honor herewith to inclose copy and translation of his reply of the 22d instant.

Mr. Stavoli stated to Mr. Butler that his calculations were at best only approximate, and that there did not exist in his department the statistics necessary to a specification of the precise proportion in the estimate of fine silver, silver in ore, or in any other form as exported from Mexico during the calendar year 1889, for it was of different grades and classes; also that such approximation, in fine ounces, could only be reached by calculations on a basis of \$39.109 as an average value per kilogram, the silver being valued at \$40.915. This yielded, according to Mr. Stavoli's values, an approximate estimate of 42,939,156 fine ounces as the declared Mexican product of silver during the calendar year 1889. \* \* \*

Speaking of the silver product of Mexico during said period, which is unaccounted for, to wit, the amount consumed in the arts; that reserved by mine owners for themselves; ingots deposited in the banks, and silver smuggled out of the country, Mr. Stavoli states that, in his opinion, it would aggregate quite as much, if not more, than the declared Mexican product given above. \* \* \*

I am, etc.,

THOMAS R. RYAN.

Hon. JAMES G. BLAINE,  
*Washington, D. C.*

*Mr. Stavoli to Mr. Butler, April 22, 1890.*

MEXICO, *April 22, 1890.*

Mr. E. C. BUTLER, etc.,

MY DEAR SIR: The only data available in my possession to supply the information you were pleased to request of me yesterday is as follows: The exportation of silver effected in the year 1889, reached \$40,657,604.82.

The silver entered at the mints of the Republic during the same year 1889 was 657,055.886 kilograms, valued at \$25,756,642.21.

There is included herein 33,135.965 kilograms, designed for exportation and valued at \$1,355,758.02, on a basis of \$40.915.

I should inform you that this data is very far from indicating the exact production of silver during the said year because of various reasons. We do not know the amount consumed, especially in Mexico City, in the arts and industries. We do not know the amount of bullion which the mine owners reserve for themselves; nor the value of that deposited, as has been the practice during some years past, in the banks; and finally, and especially because it is impossible to calculate what is exported and taken out of the country clandestinely.

You are at liberty to make whatever use you please of the data in this letter.

I remain etc.,

J. STAVOLI



While this product is a very large increase over the product of the Mexican mines for 1888, which was officially reported as 32,000,000 fine ounces, in lieu of accurate statistics it has been adopted for the purposes of this report.

The coining value in United States silver dollars of this product was \$55,517,000.

The exports of the precious metals from Mexico during the fiscal years 1887-'88 and 1888-'89 were as follows:

EXPORTS OF THE PRECIOUS METALS DURING THE FISCAL YEARS 1887-'88 AND 1888-'89, ENDED JUNE 30, 1888 AND 1889.\*

Metals.	1887-'88.	1888-'89.
Silver ore.....	\$5,928,303.97	\$7,623,589.07
Foreign silver .....	52,833.83	154,347.02
Mexican silver coins.....	16,841,117.86	22,686,337.29
Silver for smelting fluxes.....	8,102.00	11,957.69
Auriferous silver.....	184,807.22	233,247.23
Silver bars.....	6,504,251.23	6,629,262.75
Sulphide of silver.....	827,769.51	798,556.64
Argentiferous lead .....	51,772.00	19,789.27
Total silver.....	30,398,957.62	38,157,086.96
Foreign gold coin.....	21,578.85	25,426.00
Mexican gold coin .....	238,104.00	253,255.00
Gold bars.....	347,547.24	349,507.53
Total gold .....	607,230.09	628,188.53
Total gold and silver .....	31,006,187.71	38,785,275.49

The destination of the exports was as follows:

EXPORTS OF PRECIOUS METALS.

To—	1887-'88.	1888-'89.
United States.....	\$17,915,000	\$23,648,000
Great Britain.....	7,936,000	10,459,000
France.....	3,626,000	2,729,000
Germany .....	1,327,000	1,282,000
Other countries.....	202,000	667,000
Total .....	31,006,000	38,785,000

GERMANY.

The bulk of the silver product of Germany is extracted from foreign ores and other foreign material.

The same is true of the gold product of the smelting works of Germany, but the gold obtained in Germany from foreign products occurs in such minute quantities, principally in copper matte and other furnace products which are shipped to Germany for smelting and refining and the incidental recovery of the precious metals, that this product is not reported to the Bureau of the Mint by the exporting countries, so that

\* Mexico.—From the Mexican Financial Review of January 10, 1890, cited by the Handels-Archiv, April, 1890, p. 231.

if omitted from Germany's product it would escape record altogether. The gold product, therefore, credited Germany is the product of its smelting works, and not of its mines.

The silver product credited Germany, however, is the product of its own mines, as shown by its statistical publications. The value of silver contained in exported ores is reported to this Bureau by the exporting countries as part of the annual product of their mines, and is credited the producing countries rather than the smelting works of Germany.

The mining statistics of Germany are not lacking in data to enable us to distinguish between the product of foreign and domestic ores, and to ascertain, at least approximately, how much of the metal extracted should be credited to Germany itself, and how much to other countries. They embrace not only the returns of smelting works, but also detailed commercial statistics.

The following table exhibits the production of gold and silver ore in Germany each year from 1879 to 1889:

PRODUCT OF SILVER ORES (INCLUDING GOLD ORES) IN THE GERMAN EMPIRE FROM 1879 TO 1889.

{Tons of 1,000 kilograms.}

Years.	Quantity.	Value.	Years.	Quantity.	Value.
	<i>Tons.</i>	<i>Marks.</i>		<i>Tons.</i>	<i>Marks.</i>
1879.....	22, 313	3, 908, 352	1885.....	24, 560	4, 289, 875
1880.....	20, 578	3, 811, 663	1886.....	21, 230	4, 478, 421
1881.....	26, 787	4, 275, 437	1887.....	25, 725	4, 177, 720
1882.....	22, 977	4, 331, 244	1888.....	20, 389	4, 069, 000
1883.....	25, 302	4, 400, 466	1889.....	22, 205	4, 046, 000
1884.....	25, 186	4, 818, 960			

The following table shows the product of gold and silver by the smelting works of Germany from domestic and foreign ores and furnace products during the years 1888 and 1889:

PRODUCTION OF GOLD AND SILVER BY THE SMELTING WORKS OF GERMANY IN 1888 AND 1889.\*

States.	Weight.		Value.	
	1888.	1889.	1888.	1889.
<b>SILVER.</b>				
I. In Prussia:	<i>Kgs. fine.</i>	<i>Kgs. fine.</i>	<i>Marks.</i>	<i>Marks.</i>
District of Breslau.....	10, 902. 750	8, 885. 000	1, 380, 243	1, 119, 946
District of Halle.....	78, 767. 410	86, 795. 790	9, 955, 102	10, 936, 235
District of Clausthal.....	49, 767. 790	51, 994. 980	6, 339, 255	6, 590, 416
District of Bonn.....	116, 183. 280	104, 965. 010	14, 689, 202	13, 168, 057
Total Prussia.....	255, 621. 230	252, 640. 780	32, 363, 802	31, 814, 654
II. Saxony.....	93, 077. 220	81, 326. 510	11, 765, 508	10, 238, 476
III. All other German states.....	57, 904. 200	69, 069. 600	7, 346, 928	8, 759, 598
Total silver.....	406, 602. 650	403, 036. 890	51, 476, 238	50, 812, 728
<b>GOLD.</b>				
German Empire.....	1, 792. 650	1, 958. 120	5, 003, 813	5, 465, 508

\* Monatshefte zur Statistik des Deutschen Reichs, 1890, Februar-Heft, II, 5.

The following table exhibits the importation into Germany of gold and silver, and of gold and silver ores, for the years 1887, 1888, and 1889 :

IMPORTS AND EXPORTS OF GOLD AND SILVER, AND OF GOLD AND SILVER ORES,  
INTO THE GERMAN EMPIRE (EXCLUSIVE OF COIN).\*

[In 100 Kilograms.]

Metals.	1889.		1888.		1887.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
Gold, silver, and platinum ores .....	108, 531	, 902	141, 973	, 134	158, 594	, 164
Gold, unwrought and in bars.....	23. 24	25. 99	298. 43	86. 71	72. 51	28. 89
Pagament; broken gold and silver.....	494. 01	0. 49	317. 90	0. 71	257. 25	0. 07
Silver, unwrought and in bars .....	341. 70	2895. 41	792. 44	622. 43	330. 42	562. 90
Precious metals not named above, unwrought, broken, and in bars .....	8. 33	13. 32	53. 43	24. 39	1. 85	1. 19

The following tables exhibit the product of gold and silver by the smelting works of Germany, from domestic and foreign ores and furnace products, each year from 1876 to 1889 :

PRODUCTION OF GOLD BY SMELTING WORKS IN GERMANY.

[Monatshefte zur Statistik des Deutschen Reichs.]

Year.	Gold production.	Year.	Gold production.
	<i>Kilograms.</i>		<i>Kilograms.</i>
1876.....	281. 3	1883.....	457. 3
1877.....	307. 9	1884.....	555. 0
1878.....	378. 5	1885.....	1, 378. 5
1879.....	466. 7	1886.....	1, 064. 9
1880.....	463. 0	1887.....	2, 250. 7
1881.....	380. 6	1888.....	1, 792. 65
1882.....	376. 1	1889.....	1, 958. 12

PRODUCTION OF SILVER BY SMELTING WORKS IN GERMANY.

[Monatshefte zur Statistik des Deutschen Reichs.]

Year.	Fine silver.	Value.	Year.	Fine silver.	Value.
	<i>Kilos.</i>	<i>Marks.</i>		<i>Kilos.</i>	<i>Marks.</i>
1876.....	139, 779	21, 969, 415	1883.....	235, 063	35, 087, 897
1877.....	147, 612	23, 812, 056	1884.....	248, 116	37, 055, 861
1878.....	167, 660	25, 390, 332	1885.....	309, 418	44, 137, 793
1879.....	177, 507	26, 518, 123	1886.....	319, 598	42, 707, 549
1880.....	186, 011	28, 607, 561	1887.....	367, 634	48, 157, 480
1881.....	186, 990	28, 514, 081	1888.....	406, 602	51, 476, 238
1882.....	214, 982	32, 763, 057	1889.....	403, 036	50, 813, 000

\* Monatshefte, January, 1890, pp. I, 34 and 35.



SPAIN.

The silver product of Spain, for recent years, has been confined to the silver obtained by the desilverization of rich argentiferous galena ores. It is produced almost entirely from Mureia, Guipuzcoa Jaen, Cordova, Almeria, Ciudad Real and Guadalajara.

Through the kindness of Hon. Thomas W. Palmer, our minister at Madrid, the following statement of the value of the silver (presumed to be commercial value) produced annually in Spain for the years 1883 to 1887, furnished by the director of public works, is presented :

VALUE OF THE SILVER PRODUCED ANNUALLY IN SPAIN.

Years.	Pesetas.	Years.	Pesetas.
1883.....	9, 843, 527	1886 .....	6, 635, 055
1884.....	4, 787, 806	1887 .....	9, 737, 789
1885.....	5, 522, 812		

The product reported for 1888 was 51,502 kilograms, of the value of \$2,140,400. In the absence of statistics for 1889 the product of 1888 has been used by way of estimate.

GREAT BRITAIN.

The product of the mines of the United Kingdom is officially reported as follows :

Years.	Gold.		Silver.	
	Pounds sterling.	Value.	Pounds sterling.	Value.
1888.....	29, 982	\$146, 000	56, 519	\$275, 000
1889.....	13, 227	64, 370	54, 453	265, 000

The value of silver in the above computations is stated to have been at the average price during the year.

The coining value of the same was approximately as follows :

1888 .....	\$376, 000 <sup>†</sup>
1889 .....	363, 000

CANADA.

According to the annual report of the mining and mineral statistics of Canada for the year 1887 by Eugene Coste, M. E., published in the annual report of the Geological and Natural History Survey of Canada, the total product of gold in the provinces of Canada during the calendar year 1887 was 66,271 ounces, of the value of \$1,178,637.

Compared with the product of 1886 this shows a decrease of 10,608 ounces, valued at \$151,805, about 11 per cent., principally due to the falling off in British Columbia of about 23 per cent.

The production by provinces is exhibited in the following table :

PRODUCTION OF GOLD IN CANADA, BY PROVINCES, 1887.\*

Provinces.	Quantity.			Value.
	Oz.	Dwt.	Grs.	
British Columbia .....	40,856	8	5	(a) \$694,559
Nova Scotia.....	21,211	17	18	413,614
Ontario .....	450	7	0	6,760
Northwest territory (including Yukon district) .....	3,660	5	0	62,100
Quebec.....	90	18	10	1,604
Total .....	66,270	16	9	1,178,637

a A small amount of bullion obtained at one of the quartz mines is added to the total \$693,709 given in the minister of mines' annual report.

According to the same report, the silver product of Canada for the calendar year 1887 approximated 349,330 ounces of silver contained in silver ores and bullion shipped from Canada during the year. The commercial value of the silver product is placed at \$349,330.

Compared with 1886 this is an increase of \$140,240.

Of the silver product of Canada it is estimated that 146,898 ounces of silver were extracted from copper pyrites shipped to the United States from the mines of Capelton, Eastern Township, Quebec.

The following table, taken from the books of the customs department, exhibits the exports of silver ore in 1886 and 1887 from the provinces where the outward shipments were made at the customs offices.

EXPORTS OF SILVER ORE.\*

Province.	1886.		1887.	
	Tons.	Value.	Tons.	Value.
Ontario .....	29½	\$16,505	234	\$184,763
Quebec .....	17½	8,000	.....	450
Manitoba .....	11	1,452	½	3,741
British Columbia .....	.....	.....	237	17,331
Total .....	.....	25,957	.....	206,285

\* From the Annual Report of the Geological and Natural History Survey of Canada. Vol. 3, Part 2, 1887-'88.

The following tables bearing upon the production of the precious metals in provinces of Canada are extracted from the same report.

## STATISTICS OF BRITISH COLUMBIA.

[From the annual report of the minister of mines of that province.]

## VALUE OF GOLD REPORTED AT THE BANKS AT VICTORIA DURING THE YEAR 1887.\*

Banks.	Value.
Bank of British Columbia.....	\$320, 794
Bank of British North America .....	58, 774
Garesche, Green & Co .....	199, 356
Total.....	578, 924

## PRODUCTION OF GOLD IN BRITISH COLUMBIA DURING 1887, AS ESTIMATED BY THE GOLD COMMISSIONERS.\*

Districts.	Divisions.	Yield of gold by divisions.	Total yield by districts.
Cariboo.....	Barkerville .....	\$79, 373	\$227, 673
	Lightning Creek.....	30, 700	
	Quesnel Mouth .....	51, 000	
	Keithley Creek .....	66, 600	
Cassiar .....	Laketon .....	31, 430	60, 485
	McDane Creek.....	23, 775	
	Skeena.....	5, 280	
Kootenay.....	Northern.....	8, 550	37, 900
	Southern.....	29, 350	
Lillooet.....	.....	106, 000	106, 000
Omineca .....	.....	13, 000	13, 000
Yale .....	Hope, Yale, and Lytton .....	20, 000	158, 200
	Kamloops.....	5, 200	
	Okanagan.....	5, 000	
	Similkameen.....	128, 000	
Total .....	.....	.....	603, 258

\*From the Annual Report of the Geological and Natural History Survey of Canada, Vol. 3, Part 2, 1887-'88.



## ANNUAL PRODUCTION OF GOLD IN BRITISH COLUMBIA SINCE 1858.\*

Year.	Amount actually known to have been exported by banks, etc.	Add one-third more, estimate of gold carried away in private hands.	Total.
1858, six months.....	\$390 265	\$130, 088	\$520, 353
1859 .....	1, 211, 304	403, 768	1, 615, 072
1860 .....	1, 671, 410	557, 133	2, 228, 543
1861 .....	1, 999, 589	666, 529	2, 666, 118
1862 .....	} 3, 184, 700	1, 061, 566	4, 246, 266
1863 .....			
1864 .....	2, 801, 888	933, 962	3, 735, 850
1865 .....	2, 618, 404	872, 801	3, 491, 205
1866 .....	1, 996, 580	665, 526	2, 662, 106
1867 .....	1, 860, 651	620, 217	2, 480, 868
1868 .....	1, 779, 729	593, 243	2, 372, 972
1869 .....	1, 331, 234	443, 744	1, 774, 978
1870 .....	1, 002, 717	334, 239	1, 336, 956
1871 .....	1, 349, 580	449, 860	1, 799, 440
1872 .....	1, 208, 229	402, 743	1, 610, 972
1873 .....	979, 312	326, 439	1, 305, 751
1874 .....	1, 383, 464	461, 154	1, 844, 618
1875 .....	1, 856, 178	618, 726	2, 474, 904
1876 .....	1, 339, 986	446, 662	1, 786, 648
1877 .....	1, 206, 136	402, 045	1, 608, 181
		<i>One-fifth.</i>	
1878 .....	1, 062, 670	212, 534	1, 275, 204
1879 .....	1, 075, 049	215, 009	1, 290, 058
1880 .....	844, 856	168, 971	1, 013, 827
1881 .....	872, 281	174, 456	1, 046, 737
1882 .....	795, 071	159, 014	954, 085
1883 .....	661, 877	132, 375	794, 252
1884 .....	613, 304	122, 861	736, 165
1885 .....	594, 782	118, 956	713, 738
1886 .....	753, 043	150, 608	903, 651
1887 .....	578, 924	115, 785	694, 709
			50, 984, 227

\*From the Geological and Natural History Survey of Canada (Annual Report), Vol. 3, Part 2, 1887-'88.

## ONTARIO.

Very little work was done in the Ontario gold mines in 1887; only small shipments of ore for test purposes were made from three or four of the mines. A new find was made late in the fall near Sudbury, in the township of Denison, from which very good specimens were obtained.

## NORTHWEST TERRITORY AND YUKON DISTRICT.

A small amount of gold is obtained every year from the Saskatchewan River alluvions near Edmonton.

Dr. G. M. Dawson, from conversation with the miners, estimates the production of the Yukon district to have been about \$60,000.

## QUEBEC.

A little gold was obtained on the Mill River, and the Gilbert River, in Beauce County, and also a small quantity at Ditton, Compton County. Some promising exploratory work was done on the Cumberland and Des Plantes Rivers.

In the report for last year the available statistics of the production of the Chaudière division in previous years was given. So far we have been unable to improve this imperfect record.

*Exports.*

The following table shows the exports of gold-bearing quartz, dust, nuggets, etc., as per customs department returns:

Ontario.....	\$6, 650
Nova Scotia.....	321, 379
British Columbia.....	592, 300
Total .....	920, 329

*Imports.*

It is impossible to give the imports of gold coin and bullion, and of the manufactures of gold, as these articles are not entered separately in the returns of the customs department, but are grouped with the same articles of silver and also with copper coins.\*

According to the report of the department of mines, Nova Scotia, for the year 1889, the product of gold in Nova Scotia for the calendar year 1889 was 26,155 ounces, against 22,407 ounces in 1888.

This is the largest gold product from the mines of Nova Scotia since 1867.

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\* From the annual report of the Geological and Natural History Survey of Canada, vol. 3, part 2, 1887-'88.

The following tables, extracted from the same report, exhibit the product of gold in Nova Scotia for the year 1887 and annually since 1862:

GENERAL STATEMENT OF GOLD PRODUCTION IN NOVA SCOTIA FOR THE YEAR 1887.

[From the report of Mr. Gilpin, inspector of mines of that province.]

District.	Quartz, etc., crushed.	Yield per ton.	Total yield of gold.	Maximum yield per ton.
	<i>Tons.</i>	<i>Oz. dwt. gr.</i>	<i>Oz. dwt. gr.</i>	<i>Oz. dwt. gr.</i>
Caribou.....	2,689	0 13 20	1,861 9 22	0 18 5
Oldham.....	2,357	1 2 1	2,599 7 9	2 10 4
Renfrew.....	1,234	0 12 3	750 4 14	0 17 16
Shorbrooko.....	2,413	0 4 20	585 3 5	0 18 7
Stormont.....	663	0 8 20.7	293 15 22	1 5 6
Tangier.....	738	0 8 10	311 10 13	1 10 0
Uniaeko.....	689	0 3 2	107 3 1	0 4 6
Salmon Rivor.....	10,602	0 6 3	3,258 0 0	0 9 1
Brookfield.....	1,691	0 16 18	1,418 1 15	1 3 9
Whiteburn.....	1,094	2 2 3	2,305 12 13	6 2 8
Lake Catcha.....	601	4 18 18	2,959 4 0	7 5 4
Rawdon.....	5,302	0 13 5.5	3,507 13 8	1 7 2
Fifteen Mile Stroam.....	829	0 9 15	398 5 0	1 5 4
Unproclaimed, etc.....	1,378	0 12 10	856 6 16	1 9 0
Total.....	32,280	Av.0 19 11	21,211 17 18	7 5 4

From the annual report of the Geological and Natural History Survey of Canada, vol 3, part 2, 1887-'88.

TOTAL PRODUCT OF GOLD EXTRACTED IN NOVA SCOTIA.

Year.	Ounces.	Year.	Ounces.
1862.....	7,275	1876.....	12,038
1863.....	14,001	1877.....	16,882
1864.....	20,622	1878.....	12,577
1865.....	25,454	1879.....	13,801
1866.....	25,204	1880.....	13,234
1867.....	27,314	1881.....	10,756
1868.....	20,541	1882.....	14,107
1869.....	17,868	1883.....	15,446
1870.....	19,866	1884.....	16,059
1871.....	19,227	1885.....	22,203
1872.....	13,094	1886.....	23,362
1873.....	11,852	1887.....	21,211
1874.....	9,140	1888.....	22,407
1875.....	11,208	1889.....	26,155



## GOLD PRODUCTION OF THE DIFFERENT DISTRICTS IN NOVA SCOTIA FROM 1862 TO 1887, INCLUSIVE.

[From the annual reports of the inspector of mines.]

District.	Total quantity of quartz crushed.	Total yields.		Average yield per ton of 2,000 pounds.
		Quantity.	Value at \$19.50 per ounce.	
		Oz. dwt. gr.		
Caribou .....	23,647	17,606 0 4	\$343,317	\$14.56
Montague .....	13,828	28,417 0 10	554,133	40.07
Oldham .....	33,528	34,059 1 18	664,153	19.80
Renfrow .....	43,096	30,220 8 13	589,299	13.07
Sherbrooke .....	161,355	118,868 17 15	2,317,943	14.36
Stormont .....	16,355	18,656 6 17	363,797	22.24
Tangior .....	28,156	18,751 10 6	365,653	12.80
Uniacco .....	31,920	18,215 16 5	355,209	11.12
Waverly .....	88,953	53,158 18 4	1,036,598	11.65
Salmon River .....	10,602	3,258 0 0	63,531	5.99
Brookfield .....	1,691	1,418 1 15	27,652	16.31
Whitoburn .....	1,094	2,305 12 13	44,960	41.09
Lako Catcha .....	601	2,959 4 0	57,705	96.00
Rawdon .....	5,302	3,507 13 8	68,399	12.90
Wino Harbor .....	38,944	27,287 16 19	532,112	13.66
Darr's Hill .....	39,509	18,715 19 19	364,962	9.14
Fifteen Mile Stream .....	1,917	958 11 23	18,693	9.75
Unproclaimed .....	44,171	35,262 10 15	687,620	15.56
Total .....	585,069	433,627 10 12	8,455,736	14.45

From the annual report of the Geological and Natural History Survey of Canada, vol. 3, part 2, 1887-'88.

The statistics for the other provinces of Canada for 1888 and 1889 are not at hand.

Estimating the product of British Columbia and the other provinces, except Nova Scotia, to have been the same in 1888 and 1889 as in 1887, the product of gold in the different provinces of the Dominion of Canada for the three years may be estimated to have been as follows:

## PRODUCTION OF GOLD IN CANADA FOR THE YEARS 1887, 1888, AND 1889.

[For 1888 and 1889 Nova Scotia only is official, the other provinces being placed the same as in 1887.]

Provinces.	1887.	1888.	1889.
British Columbia .....	\$694,559	\$694,559	\$694,559
Nova Scotia .....	413,614	346,936	510,022
Ontario .....	6,760	6,760	6,760
Northwest Territory .....	62,100	62,100	62,100
Quebec .....	1,604	1,604	1,604
Total .....	1,178,637	1,111,959	1,275,045

The silver product of Canada for the years 1888 and 1889, in the absence of official statistics, is estimated to have been approximately the same as in 1887.

## ARGENTINE REPUBLIC.

The product of the mines of the Argentine Republic for the calendar year 1888 was officially reported as—

Gold .....	\$31,000
Silver .....	425,000

The gold was derived from auriferous sands, and the silver almost entirely from the Famatinas mines and in part from bars of copper containing silver.

The imports and exports of the precious metals for the years 1881-'88 are reported\* to have been as follows:

## IMPORTS AND EXPORTS OF THE PRECIOUS METALS, 1881-'88.

Years.	Imports.	Exports.
	<i>Pesos (dollars).</i>	<i>Pesos (dollars).</i>
1881.....	4, 296, 236	3, 091, 015
1882.....	2, 772, 776	2, 999, 251
1883.....	2, 434, 968	4, 904, 464
1884.....	4, 910, 220	4, 509, 954
1885.....	6, 306, 251	8, 442, 644
1886.....	20, 635, 662	8, 358, 018
1887.....	9, 748, 596	9, 877, 185
1888.....	44, 810, 150	8, 734, 500

In the absence of official statistics for 1889, the product for that year has been estimated to have been approximately the same as in the preceding year.

## COLOMBIA.

The product of the precious metals in Colombia for the year 1887 is reported by our minister to have been approximately—

Gold.....	\$3,000,000
Silver .....	1,000,000

The exports for the same year, upon which this estimate was based, were reported to have been as follows:

## EXPORTS OF GOLD AND SILVER FROM COLOMBIA, 1887.

Gold.	Amount.	Silver.	Amount.
Gold dust.....	\$177, 296	Silver bars .....	\$200,000
Gold bars.....	2, 610, 504	Silver coin.....	914, 985
Gold coin.....	83, 632	Total .....	1, 114, 985
Total .....	2, 871, 432		

\* Handels-Archiv, February, 1890, p. 106.

For the calendar year 1888 our minister reported the exports of gold and silver to have been approximately as follows:

EXPORTS OF PRECIOUS METALS FROM COLOMBIA, 1888.

Gold dust.....	\$421, 408
Gold bars.....	1, 063, 119
Gold and silver bars.....	337, 160
Gold, silver, and platinum dust.....	110, 694
Silver bars.....	154, 907
Precious metals (presumably ore).....	783, 215
Silver coin.....	1, 052, 368
Gold coin.....	46, 407
Gold and silver coin.....	290, 895
Total.....	4, 260, 173

The exports of the precious metals for 1888, exclusive of coin, are elsewhere \* given as follows:

Ores.....	\$202, 234
Gold bars.....	1, 267, 802
Gold dust.....	223, 502
Gold, silver, and platinum dust.....	110, 695
Silver bars.....	154, 907
Silver-gold bars.....	468, 429
Precious metals (presumably ore).....	783, 065
Total.....	3, 210, 634

The value of gold and silver bars that reached Savanilla for shipment during the years 1887 and 1888 are reported † to have been:

1887.....	\$3, 548, 534
1888.....	4, 521, 521

Based upon statistics of export, the product of Colombia for each of the three last years may be placed at about \$4,000,000 annually, of which about three-fourths was gold and one-fourth silver.

These figures do not vary materially from the statistics of the product of the mines of Colombia, compiled by Vicente Restrepo,‡ for the years 1881-'84.

BOLIVIA.

Great uncertainty exists as to the quantity of silver extracted annually from the mines of Bolivia.

Many estimates have been put forward, which have varied greatly, owing principally to the imperfect and contradictory statistics furnished from time to time by the authorities of that Republic.

Through the efforts of Hon. S. S. Carlisle, our minister at La Paz, the following data have been obtained from the Ministry of the Treasury

\* Handels-Archiv, October, 1889, p. 659.

† *Ibid.*, January, 1890, pp. 12, 13.

‡ A study of the gold and silver mines of Colombia. New York, 1886.



relative to the production, coinage, and export of the precious metals covering the calendar years 1886, 1887, and 1888.

DATA TRANSMITTED AT REQUEST OF THE MINISTER OF THE UNITED STATES OF NORTH AMERICA, UPON THE PRODUCTION OF SILVER, GOLD, AND COPPER IN BOLIVIA IN THE YEARS 1886, 1887, AND 1888.

Metals.	1886.	1887.	1888.
Gold.....ounces..	*3, 850	5, 000	3, 120
Silver bullion.....marcs..	995, 197	597, 690	1, 002, 000
Copper.....quintals..	14, 900	87, 573	62, 731
Coinage.....Bolivianos..	2, 480, 000	3, 120, 000	2, 167, 000
Return of custom-houses.....do.....	1, 255, 000	1, 344, 916	2, 100, 000

\* Native gold.

The item "return of custom-houses" affords no information as to the amount of ores and bullion exported, but it is believed to represent the gross amount of duties collected on imports.

Taking the gold and silver bullion reported as representing the product of the mines for these years, and the Bolivian "marco" as weighing about 230 grams, and the ounce about one-eighth of a marco, the weight and coining value of the gold and silver product for the years 1886, 1887, and 1888 was approximately as follows:

PRODUCTION OF BOLIVIA, ACCORDING TO MEMORANDUM FURNISHED THE MINISTRY OF THE UNITED STATES BY THE MINISTRY OF THE TREASURY.

Years.	Gold.		Silver.	
	Kilo-grams.	Value.	Kilo-grams.	Value.
1886.....	110	\$73, 000	228, 895	\$9, 500, 000
1887.....	143	95, 000	137, 468	5, 713, 170
1888.....	90	59, 800	230, 460	9, 578, 000

In presenting the above statistics of the product of Bolivian mines, it is proper to say that no great value is attached to their correctness, but as they agree substantially for each year, except 1887, with the estimates heretofore made by this bureau of the silver product of Bolivia, derived from other data, they are adopted as approximately representing the product of the mines of the country.

The statistics for 1889 are not at hand as yet, and in their absence the same product as for 1888 is credited Bolivia for 1889.

#### CHILI.

As the product of the precious metals from the mines of Chili is either sold to the mint or exported, the annual export of bullion and coin is generally taken as approximating the amount produced by the mines.

For the year 1887 this was reported as follows:

PRODUCT OF CHILI, 1887.

Classes.	Gold.		Silver.	
	Kilograms.	Value.	Kilograms.	Value.
Bullion .....	572	\$442, 518	200, 000	\$8, 537, 360
Ore .....	3, 437	1, 148, 899	.....	.....
Total .....	4, 009	1, 591, 417	200, 000	8, 537, 360

The exports for 1887 and 1888 are reported \* to have been as follows:

EXPORTS OF GOLD AND SILVER FROM CHILI.

Years.	Gold.	Silver.
	<i>Pesos (dollars).</i>	<i>Pesos (dollars).</i>
1887 .....	1, 519, 362	8, 291, 920
1888 .....	1, 962, 430	7, 723, 957

The value of the gold and silver product of the mines of Chili has been placed for the years 1887 and 1888 at the amounts exported.

For the year 1889 no statistics are at hand and the product for 1888 has been adopted as the estimate for the year 1889.

The following table exhibiting the value of the product of silver in bars in Chili each year from 1844-'88 is taken from "Estadistica Comercial De la Republica De Chile."

PRODUCT OF SILVER IN BARS—CHILI.

Year.	Values.	Year.	Values.
1844 .....	\$1, 230, 458	1867 .....	\$2, 906, 640
1845 .....	1, 655, 698	1868 .....	3, 129, 551
1846 .....	1, 773, 949	1869 .....	3, 300, 943
1847 .....	1, 798, 083	1870 .....	1, 828, 409
1848 .....	2, 239, 644	1871 .....	2, 409, 033
1849 .....	3, 215, 572	1872 .....	1, 664, 599
1850 .....	3, 914, 148	1873 .....	2, 917, 225
1851 .....	3, 277, 319	1874 .....	2, 992, 818
1852 .....	3, 511, 553	1875 .....	2, 938, 510
1853 .....	1, 738, 054	1876 .....	1, 394, 565
1854 .....	2, 714, 193	1877 .....	1, 724, 046
1855 .....	2, 648, 746	1878 .....	1, 645, 935
1856 .....	2, 589, 563	1879 .....	2, 408, 526
1857 .....	1, 584, 254	1880 .....	3, 372, 740
1858 .....	1, 248, 666	1881 .....	1, 593, 895
1859 .....	718, 829	1882 .....	3, 909, 852
1860 .....	1, 534, 066	1883 .....	3, 074, 842
1861 .....	1, 308, 680	1884 .....	2, 989, 355
1862 .....	2, 180, 861	1885 .....	6, 768, 902
1863 .....	2, 241, 476	1886 .....	6, 566, 715
1864 .....	1, 638, 272	1887 .....	8, 291, 920
1865 .....	1, 001, 666	1888 .....	7, 723, 957
1866 .....	1, 694, 350	Total .....	123, 010, 578

\* Handels-Archiv, Feb., 1889, p. 112.

## BRAZIL.

The product of gold from the mines of Brazil deposited at the mint at Rio de Janeiro, during the calendar year 1888, was 351 kilograms, of the value of 402,808 milreis.

Large amounts of gold are exported from Brazil which do not reach the mint.

During the fiscal year 1886-'87 the value of the gold in bars and dust exported was reported to have been 1,197,684 milreis, and during the second half of the year 1887, 464,940 milreis.

During the year 1888 the exports and deposits at the mint were as follows :

	Milreis.
Gold dust exported .....	309,542
Gold bars melted by individuals .....	145,068
Gold bars melted at the mint .....	360,949
Total.....	815,559

Based upon the quantity of gold melted at the mint and exported the product of Brazil for the years 1887 and 1888 was approximately :

1887 .....	\$654,000
1888 .....	445,300

No statistics covering the year 1889 are at hand. In the absence of such statistics the product for 1888 has been used as approximately representing the product for 1889.

Small quantities of silver are produced in Brazil aggregating annually about \$5,000 in value.

## VENEZUELA.

Gold is found in large quantities in Venezuela, principally in the territory of Yuruari, the principal mines being those of the El Callao Mining Company.

It is said that silver exists in Bermudez, Lara, and Los Andes, but no silver product is reported.

There was a notable diminution in the gold product during the calendar year 1888, according to returns of shipments from the port of Ciudad Bolivar, the amount exported being about \$386,000 less in value than in 1887.

According to returns from the trade report of Ciudad Bolivar the gold product in 1888 amounted to 74,892 troy ounces (2,130 kilograms) against 95,352 troy ounces (2,960 kilograms) in 1887.

During the year 1888 there were deposited at the mint at Caracas 48,468 ounces of gold and there were exported 24,934 ounces, the latter being valued at 2,393,664 bolivars (francs).

Gold and silver coins valued at 722,031 bolivars were exported from the port of Ciudad Bolivar in 1888.



\* The following table gives the quantities of gold shipped from Yuruari to Ciudad Bolivar in 1887 and 1888, according to the report of the inspector of mines, from each of the existing companies:

Companies.	1887.		1888.		Total.	
	Kilo-grams.	Grams.	Kilo-grams.	Grams.	Kilo-grams.	Grams.
El Callao .....	2, 154	130	1, 643	706	3, 797	836
Chilo .....	292	643	70	348	362	996
La Union.....	201	608	195	457	397	065
El Callao Bis.....			21	351	21	351
Cicapra .....		893				893
El Choco.....			3	155	3	155
Venezuela Austin Limitada .....	1	882	154	431	156	313
Various companies .....	33	887	186	344	220	231
Wash-gold and Amalgam.....	45	475	69	608	115	083
Total .....	2, 730	523	2, 344	400	5, 074	923

\* Since the beginning of mining in the territory of Yuruari, in the year 1866, up to 1888 (inclusive), the exportation of gold from that region amounted to 60,936 kilograms, showing the total production of the Yuruari gold region up to and including 1888 to have been \$40,500,000.

The product of gold in all Venezuela has been placed at:

Years.	Kilograms.	Value.
1887.....	2, 960	\$1, 967, 216
1888.....	2, 130	1, 415, 598

The statistics for 1889 are not at hand, so the product of 1888 has been used by way of estimate for 1889.

#### BRITISH GUIANA.

The production of gold in British Guiana has largely increased.

During the first half of the year 1888 there were exported 5,897 ounces of gold, valued at \$107,264, and in the first half of the year 1889, 12,167 ounces, valued at \$228,517.

The exports of gold at the port of Georgetown during the calendar years 1887 and 1888 are reported† to have been:

	Ounces.
1887.....	11, 960
1888.....	14, 570

The product of gold for the last three years, based upon exports of gold, was approximately as follows:

	Kilograms.
1887.....	370
1888.....	450
1889.....	687

\* Handels-Archiv, March, 1890, p. 63.

† *Ibid.*, September, 1889, p. 606.

## CENTRAL AMERICA.

There are no statistics of the product of gold and silver in the States of Central America. Any estimate of the product must be based upon the exports of gold and silver bullion.

In 1887 the value of the gold and silver bullion exported from Honduras was \$600,600. The silver bullion exported from Salvador the same year was valued at \$230,000.

During the fiscal year 1887-'88 the exports of the precious metals from Honduras were reported to have been in value:

	Pesos.
Silver in bars.....	1,583,000
Gold, ingots and melted.....	78,800

In 1888 the exports from Salvador of gold and silver were as follows:

Metals..	Gold.	Silver.
	<i>Pesos.</i>	<i>Pesos.</i>
Gold .....	38,000	
Silver bullion .....		171,313
Silver ore .....		5,342
Silver, coined .....		97,150
Total.....	38,000	273,805

As a rough estimate of the annual product of gold and silver in Central America based upon exports of bullion and ore, the value has been placed at:

Gold .....	\$150,000
Silver .....	2,000,000

## SOUTH AFRICA.

The total product of gold in the South African Republic or the Transvaal, during the calendar year 1889, approximated £1,660,000, or \$8,078,000.

This embraces only the aggregate value of the products of the leading districts. Odd quantities from other mining districts, in regard to which statistics are not at hand, would doubtless increase the product above the figures given.

The product in 1889 was nearly double the product of South Africa for the preceding year and more than quadruple the product in 1887, making South Africa now the fourth largest gold-producing country in the world.

The Witwatersrandt district heads the list of mining districts with an aggregate product of 383,544 gross ounces, including about 3,000 ounces produced in the neighboring districts of Klerksdorp and Pot-scheftstroom.

According to the report of the Johannesburg chamber of commerce, the monthly yield of the Witwatersrandt district during the calendar years 1888 and 1889 was as follows:

PRODUCTION OF GOLD IN THE WITWATERSRANDT DISTRICT, SOUTH AFRICA, DURING THE CALENDAR YEARS 1888 AND 1889.

Months.	1888.	1889.
	<i>Gross ounces.</i>	<i>Gross ounces.</i>
January .....	11,269	24,986
February .....	12,161	25,800
March .....	14,706	28,705
April .....	15,853	27,131
May .....	19,002	38,298
June.....	16,328	31,272
July .....	19,966	32,467
August .....	19,877	32,142
September .....	20,219	34,365
October .....	27,775	31,914
November .....	27,336	36,116
December.....	26,148	40,404
Total .....	230,640	383,544

This gold is valued at about \$18.25 per ounce, which would give a total value for the product of this district for the last calendar year of about \$7,000,000, against \$4,216,000 in the preceding year, an increase of \$2,784,000, or about 66 per cent.

Reports from the De Kaap district show a product of 34,148 gross ounces of gold, and from the Lydenburg district about 25,000 ounces, in 1889.

These three districts, therefore, report an aggregate product of the value of about \$8,078,000 corresponding to 390,800 fine ounces of gold.

#### INDIA.

The production of gold in India in 1889 was greater than in any previous year.

The mines of the companies operating in the Colar gold fields of Mysore produced 78,292 gross ounces of gold, valued at \$1,477,525, as compared with 31,330 ounces in 1888, valued at \$651,720. The product of the Mysore groups of mines was larger last year than the total product from the same mines during the five preceding years.

The returns from the gold mines of British India are complete for the first quarter of the calendar year 1890, so far as the Nundygroog and Mysore companies operating in the Colar gold fields are concerned, and they may be compared with the product of the same companies for the first quarter of the calendar year 1889. During the first three months of the calendar year 1889, the mines operated by the Mysore company yielded 8,633 gross ounces of gold; during the same period of 1890 they yielded 16,755 ounces of gold, an increase of 93



per cent. The Nundydroog product is no less striking. The mines of this company yielded, during the first three months of 1889, 1,489 ounces of gold, while for the same period of 1890 they have produced 3,447 ounces, an increase of 133 per cent.

Practically all the gold produced in British India comes from the Mysore province. A small quantity, however, is obtained in the Madras Presidency. This was reported for 1887 to have been about \$34,000 in value. The statistics for the Madras Presidency since 1887 are not at hand.

The following table exhibits the distribution of the product of the Mysore province in 1889:

## PRODUCTION OF COLAR GOLD-FIELDS, 1889.

Months.	Mysore Company.		Nundydroog Com- pany.		Nine Reefs Company.		Indian Consolidated Company.	
	Quan- tity.	Value.	Quan- tity.	Value.	Quan- tity.	Value.	Quan- tity.	Value.
	Ounces.	£ s. d.	Ounces.	£ s. d.	Ounces.	£	Ounces.	£ s. d.
January .....	2,376	9,283 17 5	581	2,178 0 8	130	1520	115	435 2 6
February .....	3,038	11,957 10 7	394	1,461 4 1	91	364	98 $\frac{3}{4}$	378 18 7
March .....	3,249	12,640 11 5	514	1,897 13 5	72	288	94	376 0 0
April .....	3,872	15,078 15 10	485	1,804 12 7	116	464	83	332 0 0
May .....	3,869	15,269 0 0	520	1,916 0 0	151	584	61	244 0 0
June .....	4,275	16,801 15 2	498	1,841 10 10	157	604	60	240 0 0
July .....	4,527	16,543 0 0	497	1,926 0 0	147	570	99	396 0 0
August .....	4,739	18,620 5 0	491	1,848 14 7	166	644	101	365 11 1
September .....	4,879	19,361 0 0	324	1,229 0 0	120	480	141	564 0 0
October .....	4,424	17,414 12 0	363	1,360 13 11	(?)	(?)	180	720 0 0
November .....	5,157	20,354 14 2	709	2,578 6 11	101	404	232	928 0 0
December .....	4,829	*18,713 0 0	751	*2,911 0 0	83	332	176	704 0 0
Total .....	49,234	191,977 13 7	6,127	22,952 16 2	1,334	5,254	1,440 $\frac{3}{4}$	6,379 12 2

Months.	Balaghat Mysore Com- pany.		Ooregum Company.		Mysore Reefs Company.		Southeast My- sore Company.	
	Quan- tity.	Value.	Quan- tity.	Value.	Quan- tity.	Value.	Quan- tity.	Value.
	Ounces.	£ s. d.	Ounces.	£ s. d.	Ounces.	£	Ounces.	£
January .....	196	707 0 7	839	3,142 1 6	.....	.....	.....	.....
February .....	258	984 5 11	927	3,483 12 6	.....	.....	.....	.....
March .....	342	1,300 0 4	1,132	4,254 1 2	.....	.....	.....	.....
April .....	143	554 0 0	1,255	4,715 14 7	.....	.....	.....	.....
May .....	218	845 0 0	1,353	*5,243 0 0	.....	.....	60	240
June .....	175	678 0 0	1,427	5,407 12 8	.....	.....	.....	.....
July .....	218	845 0 0	1,467	5,556 7 0	.....	.....	.....	.....
August .....	262	989 0 6	1,506	5,696 18 6	.....	.....	.....	.....
September .....	371	*1,484 0 0	1,563	5,913 0 0	.....	.....	.....	.....
October .....	430	1,662 16 5	1,640	6,132 12 8	32 $\frac{1}{2}$	130	.....	.....
November .....	505	1,957 4 2	1,662	6,317 6 8	45	180	.....	.....
December .....	469	*1,818 0 0	1,683	*6,522 0 0	58	232	.....	.....
Total .....	3,587	13,824 7 11	16,454	62,384 7 3	135 $\frac{1}{2}$	542	60	240

\* Estimated at 3 $\frac{7}{8}$  l. per ounce.

† All the yields of Nine Reefs, Mysore Reefs, and South-East Mysore; all but those for the months of January, February, and August of the Indian Consolidated Company; and all but those of April, May, June, and July of the Balaghat Mysore are estimated at 4 l. per ounce.

The following table shows the value, by mines, of the output each year since 1884 up to and including 1889 :

PRODUCT OF COLAR GOLD-FIELDS, 1884 TO 1889.

	Full list of gold-mining companies in the Colar field of Mysore, India.	Amount of capital in £1 shares.	Value of gold produced.		
			1884.	1885.	1886.
		£	£ s. d.	£ s. d.	£ s. d.
1	Mysore .....	175,000	4,431 1 8	23,988 11 9	62,308 18 7
2	Oorogum .....	125,000	.....	.....	.....
	Do.....	120,000	.....	.....	.....
3	Nundydroog.....	150,000	.....	.....	.....
4	Mysore Reefs.....	150,000	.....	.....	.....
5	Nine Reefs .....	150,000	.....	.....	.....
6	Indian Consolidated.....	605,000	.....	.....	.....
7	Mysore West .....	125,000	.....	.....	.....
8	Balaghat-Mysore.....	150,000	.....	.....	.....
9	Mysore-Wynaad .....	250,000	.....	.....	.....
10	Gold-field of Mysore .....	220,000	.....	.....	.....
11	South-East Mysore .....	130,000	.....	.....	.....
12	Colar Central.....	200,000	.....	.....	.....
13	Champion Reefs.....	200,000	.....	.....	.....
	Total .....	2,750,000	4,431 1 8	23,988 11 9	62,308 18 7

	Full list of gold-mining companies in the Colar field of Mysore, India.	Value of gold produced.			
		1887.	1888.	1889.	June, 1884, to Dec. 31, 1889.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.
1	Mysore .....	50,827 17 5	73,973 13 8	191,977 13 7	407,507 16 8
2	Oorogum .....	.....	15,290 19 11	62,384 7 3	77,675 7 2
	Do.....	.....	.....	.....	.....
3	Nundydroog.....	5,737 18 10	26,522 19 0	22,952 16 2	55,213 14 0
4	Mysore Reefs.....	.....	.....	542 0 0	542 0 0
5	Nine Reefs .....	549 18 9	3,071 3 1½	5,254 0 0	8,875 0 0
6	Indian Consolidated .....	420 0 0	4,139 13 1½	6,379 12 2	10,939 5 3½
7	Mysore West.....	.....	.....	.....	.....
8	Balaghat-Mysore .....	682 0 0	10,538 19 2	13,824 7 11	25,045 7 1
9	Mysore-Wynaad .....	.....	.....	.....	.....
10	Gold-field of Mysore .....	.....	.....	.....	.....
11	South-East Mysore .....	.....	386 0 0	298 0 0	684 0 0
12	Colar Central.....	.....	.....	.....	.....
13	Champion Reefs.....	.....	.....	.....	.....
	Total .....	58,217 15 0	133,923 8 0	303,612 17 1	586,482 10 2½

The product of gold in British India for each of the last three calendar years was as follows :

GOLD PRODUCT OF BRITISH INDIA, 1887, 1888, AND 1889.

Provinces.	1887.	1888.	1889.
Mysore .....	\$286,000	\$651,720	\$4,477,525
Madras Presidency .....	34,000	*34,000	*34,000
Total .....	320,000	685,720	1,511,525

\*Estimated same as 1887-

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## PART II.

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PRODUCTION OF STATES AND TERRITORIES.

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## CHAPTER I.

### ALASKA.

The product of the precious metals in the Territory of Alaska for the calendar year 1889 is estimated by Mr. W. H. Dimond, Superintendent of the Mint at San Francisco, to have been of the value of \$963,250, of which \$952,490 was gold and \$10,760 silver.

This estimate is based on the manifested values of the precious metals transported from Alaska to San Francisco.

As no facilities exist in Alaska for refining the precious metals, the above estimate is presumed to cover the whole product of the Territory.

#### BULLION PRODUCTION OF MINES (ESTIMATED) IN ALASKA FOR THE TWELVE MONTHS ENDING DECEMBER 31, 1889.

Mines.	Gold.	Silver.	Total.	Superintendent, manager, or secretary.
All mines in Territory .....	\$952, 490. 00	\$10, 760. 00	\$963, 250. 00	
Alaska mill (on Douglas Island)...	652, 490. 78	.....	652, 490. 78	A. T. Corbus, secretary.
Omilak gold and silver (at Juneau) .....	.....	7, 760. 00	7, 760. 00	J. C. Green.
Total .....	952, 490. 78	7, 760. 00	660, 250. 78	

## CHAPTER II.

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### ARIZONA.

By JOHN F. BLANDY, M. E.,

*Prescott, Arizona.*

In reviewing the production of the precious metals in Arizona for the year 1889 there are but few features calling for special notice. There has been some increase in the production of gold, due more especially to the developments of the Congress mine, in Yavapai County, and to the Harqua Hala District, in Yuma County. At the "Congress," the 20-stamp concentrating mill was started the 1st of November, giving a large increase in the marketable ore, although throughout the year much difficulty was experienced in providing teams to haul away the assorted ore.

The ore is pure pyrites, with an almost imperceptible amount of "free gold." Many veins are known in that district of a similar character, though none of such a high grade, viz, 7 to 9 ounces per ton. The success of the company is likely to lead to much larger developments of the district, and we can look for a steady increase from that source. Especially will this be the case if the projected railroad from Prescott to Phoenix is built, as it will pass through the heart of that gold region.

We may look for quite an increase from two new mills in the Bradshaw Mountains. Mohave County will have the addition of two mills in 1890. A very promising group of gold claims have been discovered in the Araripa district, on the border of Graham County, and are being energetically exploited.

There has been a large decrease in the production of silver, due to the suspension of large mines, in the Tombstone district. This is to be attributed to the decrease in value of silver and increase in the cost of mining below water level. Should the recent rise in the value of silver be maintained these mines will undoubtedly be re-opened. The failure of the ore-bodies in the Silver King Mine, in Pinal County, has also caused a large decrease from that source. From Mohave County we fortunately have a large increase both in gold and silver. This has resulted from the facilities offered the miners to dispose of their ores by the Sampling Works at Kingman.

Mining in Yuma County has fallen off very much of late, a total of only 475 tons of silver-lead ores were sent by the Colorado River during the year, of an average value of 75 ounces in silver, and 60 per cent. lead. Three hundred tons of this amount were concentrated from the old dumps of the Red Cloud mine.



When we consider that this last amount was recovered by a pneumatic concentrator, it becomes an item of great interest to Arizona. It is well known that the deficiency of water is the greatest drawback to mining in this Territory, and further, that there are immense quantities of low grade ores to be found in every mining district. This fact of the *practical* application of the pneumatic principle is, therefore, of the highest importance, and it is to be expected that the practice will soon be widely extended.

In making my estimates I have allowed a loss of 5 per cent. from assay value in smelting the gold and silver ores, which have been sent through samplers, and have taken 94 cents per ounce for an average value of silver.

PRODUCTION OF ARIZONA BY COUNTIES, 1889.

Counties.	Ores.		Concentrates.		Bullion.		Total gold.	Total commercial value silver.	Grand total.
	Gold.	Silver.	Gold.	Silver.	Gold.	Silver.			
Mohave.....	\$55,850	\$495,289	\$5,812	\$8,485	\$74,063	\$5,177	\$135,725	\$508,951	\$644,676
Yavapai.....	376,941	154,147	.....	.....	84,763	8,614	461,704	162,761	624,465
Yuma.....	.....	33,605	.....	.....	85,295	.....	85,295	33,605	118,900
Maricopa.....	.....	.....	.....	.....	43,510	170	43,510	170	43,680
Pima.....	6,711	327,563	.....	.....	56,871	280,810	63,582	603,373	671,955
Pinal.....	125	31,965	.....	.....	500	154,780	625	186,745	187,370
Cochise.....	47,955	164,926	.....	.....	10,000	30,000	57,955	194,926	252,881
Graham.....	241	2,298	.....	.....	1,015	.....	1,256	2,298	3,554
Gila.....	.....	15,720	.....	.....	1,000	.....	1,000	15,720	16,720
Total.....	487,823	1,225,513	5,812	8,485	357,017	479,551	850,652	1,713,549	2,564,201
Returns from smelters and express, not included above.....	.....	.....	.....	.....	.....	.....	241,407	263,864	505,271
Grand total.....	.....	.....	.....	.....	.....	.....	1,092,059	1,977,413	3,069,472

PRODUCT OF MOHAVE COUNTY FOR 1889.

Name of mine.	Ores.		Concentrates.		Bullion.		Total gold.	Total silver.	Grand total.
	Gold.	Silver.	Gold.	Silver.	Gold.	Silver.			
Old Timer.....	\$262	\$456	.....	.....	.....	.....	\$262	\$456	\$718
Silver King.....	.....	.....	.....	\$6,665	.....	.....	.....	6,665	6,665
Rustler.....	1,218	1,370	.....	.....	.....	.....	1,218	1,370	2,588
Infallible.....	2,294	940	.....	.....	.....	.....	2,294	940	3,234
Tuckahoe.....	486	1,573	.....	1,632	.....	.....	486	3,205	3,691
Flores.....	.....	.....	\$5,812	188	\$23,248	\$752	29,060	940	30,000
Tintie.....	5,250	.....	.....	.....	.....	.....	5,250	.....	5,250
Empire.....	.....	6,359	.....	.....	.....	.....	.....	6,359	6,359
Signal.....	.....	.....	.....	.....	1,250	.....	1,250	.....	1,250
J. M. Cross.....	1,808	2,796	.....	.....	.....	.....	1,808	2,796	4,604
Sampling Works.....	35,532	357,570	.....	.....	.....	.....	35,532	357,570	393,102
Sundries, per express company.....	.....	.....	.....	.....	43,565	4,425	49,565	4,425	53,990
C. O. D. Mine.....	.....	61,100	.....	.....	.....	.....	.....	61,100	61,100
Sundry mines.....	9,060	63,125	.....	.....	.....	.....	9,060	63,125	72,125
Total.....	55,850	495,289	5,812	8,485	74,063	5,177	135,725	508,951	644,676

## PRODUCT OF YAVAPAI COUNTY FOR 1889.

Name of mine.	Ores.		Concentrates.		Bullion.		Total gold.	Total silver.	Grand total.
	Gold.	Silver.	Gold.	Silver.	Gold.	Silver			
Congress .....	\$333,000	\$7,000	.....	.....	.....	.....	\$333,000	\$7,000	\$340,000
Hillside .....	21,872	47,793	.....	.....	.....	.....	21,872	47,793	69,665
Catochin .....	627	4,856	.....	.....	.....	.....	627	4,856	5,483
Amulet .....	.....	6,744	.....	.....	.....	.....	.....	6,744	6,744
Oro Bella .....	.....	.....	.....	.....	\$16,000	\$1,128	16,000	1,128	17,128
Italian .....	.....	.....	.....	.....	3,500	.....	3,500	.....	3,500
Howard .....	.....	.....	.....	.....	6,000	330	6,000	330	6,330
Middleton .....	.....	2,820	.....	.....	.....	.....	.....	2,820	2,820
Belle .....	3,800	3,706	.....	.....	.....	.....	3,800	3,706	7,506
Old Reliable .....	.....	.....	.....	.....	6,469	47	6,469	47	6,516
Boggs .....	.....	.....	.....	.....	1,344	601	1,344	601	1,945
Scotch Lassie .....	.....	188	.....	.....	.....	.....	.....	188	188
Tip-Top District .....	2,848	32,825	.....	.....	.....	.....	2,848	32,825	35,673
Prescott Sampling Works .....	14,794	48,214	.....	.....	.....	.....	14,794	48,214	63,009
Sundries, per express company .....	.....	.....	.....	.....	34,721	2,545	34,721	2,545	37,266
Sundry mines .....	.....	.....	.....	.....	16,729	3,962	16,729	3,962	20,691
United Verde Copper Company .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total .....	376,941	154,146	.....	.....	84,763	8,613	461,704	162,759	624,464

## PRODUCT OF PIMA COUNTY, FOR 1889.

St. Patrick .....	.....	\$84,600	.....	.....	.....	.....	.....	\$84,600	\$84,600
Harshaw .....	.....	.....	.....	.....	.....	\$86,211	.....	86,211	86,211
Horn silver .....	.....	940	.....	.....	.....	.....	.....	940	940
Mammoth .....	.....	.....	.....	.....	\$1,400	.....	\$1,400	.....	1,400
Owl Head .....	.....	.....	.....	.....	.....	25,838	.....	25,838	25,838
Nonpareil .....	\$1,437	4,211	.....	.....	.....	.....	1,437	4,211	5,649
Nogales Station .....	138	28,451	.....	.....	.....	.....	138	28,451	28,589
Crittenden Station .....	.....	77,000	.....	.....	.....	.....	.....	77,000	77,000
Tucson Station .....	4,994	125,708	.....	.....	52,486	102,922	57,480	228,630	286,110
Pautano Station .....	142	4,848	.....	.....	2,985	.....	3,127	4,848	7,975
Sundry mines .....	.....	1,804	.....	.....	.....	65,838	.....	67,642	67,642
Total .....	6,711	327,562	.....	.....	56,871	280,809	63,582	608,371	671,954

# CHAPTER III.

## CALIFORNIA.

By W. H. DIMOND.

*Superintendent of United States Mint at San Francisco, Cal.*

The product of the precious metals in the State of California for the calendar year 1889 is estimated to have been \$14,852,533, of which \$13,787,252 was gold and \$1,065,281 silver.

County.	Gold.	Silver.	Total.
Amador .....	\$1, 560, 975	\$6, 398	\$1, 567, 373
Butte .....	696, 628	518	697, 146
Calaveras .....	592, 243	1, 071	593, 314
Colusa .....	12, 592	1, 034	13, 626
Del Norte .....	21, 800	.....	21, 800
El Dorado .....	427, 638	408	428, 046
Fresno .....	185, 988	4, 629	190, 617
Humboldt .....	143, 701	274	143, 975
Inyo .....	193, 957	30, 706	224, 663
Kern .....	242, 676	7, 517	250, 193
Lassen .....	97, 503	215	97, 718
Los Angeles .....	30, 203	6, 597	36, 800
Mariposa .....	145, 819	210	146, 029
Merced .....	4, 843	.....	4, 843
Monterey .....	3, 500	500	4, 000
Mona .....	193, 261	86, 827	280, 091
Napa .....	55, 000	40, 000	95, 000
Nevada .....	2, 249, 335	5, 633	2, 254, 968
Orange .....	6, 262	9, 273	15, 535
Placer .....	1, 265, 490	3, 965	1, 369, 455
Plumas .....	796, 754	235	796, 989
Sacramento .....	210, 075	.....	210, 075
San Bernardino .....	19, 737	824, 820	844, 557
Santa Barbara .....	4, 423	175	42, 598
San Diego .....	275, 440	25, 740	301, 180
San Luis Obispo .....	6, 260	.....	6, 260
Shasta .....	415, 611	5, 396	421, 027
Sierra .....	1, 446, 486	1, 222	1, 447, 708
Siskiyou .....	915, 294	370	915, 664
Stanislaus .....	20, 410	.....	20, 410
Tulare .....	39, 340	250	39, 590
Trinity .....	811, 632	640	812, 272
Tuolumne .....	446, 300	543	446, 843
Yuba .....	112, 053	115	112, 168
Total .....	13, 787, 252	1, 065, 281	14, 852, 533



## RETURNS FROM MINING COMPANIES BY COUNTIES IN CALIFORNIA, 1889.

Mining company.	Post-office.	Gold.	Silver.	Total.
AMADOR COUNTY.				
Gover Improvement .....	Amador City .....	\$50, 646. 19	-----	\$50, 646. 19
Keystone Consolidated .....	do .....	69, 190. 21	-----	69, 190. 21
South Spring Hill Gold .....	do .....	150, 000. 00	\$1, 500. 00	151, 500. 00
Forest Home .....	Forest Home .....	500. 00	-----	500. 00
Arroyo Seco .....	Ione .....	7, 441. 20	-----	7, 441. 20
Small mines .....	do .....	3, 100. 50	-----	3, 100. 50
Chinese and Indians .....	do .....	12, 000. 00	-----	12, 000. 00
Chinese Company .....	do .....	5, 000. 00	-----	5, 000. 00
Irish Hill Gravel .....	do .....	6, 740. 50	-----	6, 740. 50
Kennedy Milling and .....	Jackson .....	150, 104. 15	1, 017. 75	151, 121. 90
River gold .....	do .....	22, 741. 75	-----	22, 741. 75
Amador Tunnel Mill .....	do .....	205. 83	-----	205. 83
Small quartz mines .....	do .....	25, 820. 00	-----	25, 820. 00
Small placer mines .....	do .....	5, 000. 00	-----	5, 000. 00
Zeile .....	do .....	103, 895. 85	1, 253. 60	105, 149. 45
Purington Ditch .....	Oleta .....	75, 000. 00	-----	75, 000. 00
Small mines .....	Pine Grove .....	7, 976. 00	-----	7, 976. 00
Anaconda .....	do .....	450. 00	-----	450. 00
Granger .....	do .....	301. 60	11. 00	312. 60
Ludekens .....	do .....	1, 892. 61	13. 10	1, 905. 71
Lowry .....	do .....	500. 00	-----	500. 00
Grass Valley Flume and Hydraulic .....	do .....	13, 000. 00	-----	13, 000. 00
Small mine .....	do .....	200. 00	-----	200. 00
Plymouth Consolidated Gold .....	Plymouth .....	136, 296. 00	-----	136, 296. 00
Small mines .....	do .....	9, 667. 00	-----	9, 667. 00
Chinese .....	do .....	2, 000. 00	-----	2, 000. 00
Little Creek .....	Sutter Creek .....	6, 000. 00	-----	6, 000. 00
Amador and Phoenix Red. Works .....	do .....	197, 263. 72	-----	197, 263. 72
Chinese .....	do .....	1, 000. 00	-----	1, 000. 00
Small mines .....	do .....	5, 000. 00	-----	5, 000. 00
Wildman Gold .....	do .....	69, 256. 00	603. 00	69, 859. 00
Sutter Creek or Iowa .....	do .....	16, 536. 00	-----	16, 536. 00
Lincoln Gold .....	do .....	3, 750. 87	-----	3, 750. 87
Katz .....	do .....	2, 500. 00	-----	2, 500. 00
Total .....	-----	1, 160, 975. 98	4, 398. 45	1, 165, 374. 43
BUTTE COUNTY.				
South Hornet .....	Bangor .....	600. 00	-----	600. 00
Small mines .....	do .....	2, 000. 00	-----	2, 000. 00
Best .....	Berdan .....	6, 500. 00	-----	6, 500. 00
Green .....	do .....	1, 800. 00	-----	1, 800. 00
Thompson & Peale .....	do .....	750. 00	-----	750. 00
Scribner .....	do .....	425. 00	-----	425. 00
Union Tunnel .....	do .....	575. 00	-----	575. 00
Holben .....	do .....	600. 00	-----	600. 00
Small mines .....	do .....	2, 000. 00	-----	2, 000. 00
Chinese .....	do .....	1, 000. 00	-----	1, 000. 00
Dix .....	do .....	8, 384. 00	-----	8, 384. 00
Wild Yankee .....	Berry Creek .....	300. 00	-----	300. 00
Berry Creek mines .....	do .....	1, 000. 00	-----	1, 000. 00
Small mines .....	Bidwell's Bar .....	1, 860. 00	-----	1, 860. 00
Indians .....	do .....	344. 10	-----	344. 10
Big Bend Tunnel .....	Big Bend .....	11, 538. 86	-----	11, 538. 86

## RETURNS FROM MINING COMPANIES BY COUNTIES IN CALIFORNIA—Continued.

Mining company.	Post-office.	Gold.	Silver.	Total.
BUTTE COUNTY—continued.				
Small mines .....	Big Bend .....	2,000.00	.....	2,000.00
Bean Creek .....	Brush Creek .....	550.00	.....	550.00
Kentuck .....	do .....	1,200.00	.....	1,200.00
Bush .....	do .....	2,300.00	.....	2,300.00
Slate .....	do .....	400.00	.....	400.00
Vieux .....	do .....	900.00	.....	900.00
Ali Foon & Co .....	do .....	3,600.00	.....	3,600.00
Kellogg Gulch .....	do .....	1,800.00	.....	1,800.00
Sky High .....	do .....	200.00	.....	200.00
Pea Vine .....	do .....	300.00	.....	300.00
Berry Creek .....	do .....	900.00	.....	900.00
Gravel Range diggings .....	do .....	1,700.00	.....	1,700.00
Poop Ravine .....	do .....	300.00	.....	300.00
Ram Creek .....	do .....	400.00	.....	400.00
Jacks .....	do .....	700.00	.....	700.00
Moody's .....	do .....	1,300.00	.....	1,300.00
Martin & Co .....	do .....	300.00	.....	300.00
Sly Creek .....	do .....	200.00	.....	200.00
Sunken Bar .....	do .....	1,300.00	.....	1,300.00
French Creek .....	do .....	1,700.00	.....	1,700.00
Wild Yankee Creek .....	do .....	400.00	.....	400.00
Chinese .....	do .....	7,500.00	.....	7,500.00
Small mines .....	do .....	8,000.00	.....	8,000.00
Spring Valley Gold .....	Cherokee .....	95,500.00	.....	95,500.00
Chinese .....	do .....	500.00	.....	500.00
Small mines .....	do .....	10,000.00	.....	10,000.00
Chinese .....	Clipper Mills .....	300.00	.....	300.00
Wright Placer .....	Con Cow .....	.....	7.76	7.76
Duensing .....	do .....	516.75	.....	516.75
Farley .....	do .....	3,100.50	.....	3,100.50
Freese & Trumble .....	do .....	435.00	.....	435.00
Gramps & Ginder .....	do .....	350.00	.....	350.00
Little KinsheW .....	do .....	500.00	.....	500.00
Simmons .....	do .....	140.00	.....	140.00
Richards .....	do .....	50.00	.....	50.00
Wright .....	do .....	45.00	.....	45.00
Taylor & Wildprett .....	do .....	75.00	.....	75.00
Murphy Lake .....	do .....	35.00	.....	35.00
Gold Bank .....	Forbestown .....	10,356.00	194.00	16,550.00
Roberts & Kendall .....	do .....	1,937.82	.....	1,937.82
Portuguese Mining Co .....	Inskip .....	4,200.00	.....	4,200.00
Carr Gravel .....	do .....	14,000.00	.....	14,000.00
Caffey .....	do .....	480.00	.....	480.00
Wild Yankee .....	do .....	210.00	.....	210.00
Nicholl & Longley .....	John Adams .....	372.06	.....	372.06
Small mines .....	do .....	17,507.09	.....	17,507.09
Daly .....	do .....	3,500.00	.....	3,500.00
Toad Town .....	Lovelock .....	16.00	17.00	33.00
Gold Ledge Quartz .....	do .....	400.00	.....	400.00
Josephine .....	do .....	300.00	.....	300.00
Snow & Kendall .....	do .....	2,800.00	.....	2,800.00
Merrimac mines .....	Merrimac .....	25,640.00	.....	25,640.00
Chinese .....	Magalia .....	5,407.40	.....	5,407.40

## RETURNS FROM MINING COMPANIES BY COUNTIES IN CALIFORNIA, 1839—Continued.

Mining Company.	Post-office.	Gold.	Silver.	Total.
BUTTE COUNTY—continued.				
West Branch .....	Magalia .....	\$248.04 .....	.....	\$248.04
Indian King Drift .....	Nimshew .....	2,051.09 .....	.....	2,051.09
Gro Fino .....	do .....	6,630.22 .....	.....	6,630.22
Chinese .....	Oroville .....	45,340.00 .....	.....	45,340.00
Small mines .....	do .....	24,989.50 .....	.....	24,989.50
Carr .....	Powelton .....	6,614.40 .....	.....	6,614.40
Eagle Gulch .....	Strawberry Valley, Yuba County.	452.50 .....	.....	452.50
Gardner .....	do .....	80.00 .....	.....	80.00
Emerson .....	do .....	125.00 .....	.....	125.00
Mexican Company .....	do .....	200.00 .....	.....	200.00
Chinese Company .....	do .....	400.00 .....	.....	400.00
Humbug .....	do .....	125.00 .....	.....	125.00
Larimir .....	do .....	125.00 .....	.....	125.00
Dodson .....	do .....	200.00 .....	.....	200.00
Purchase .....	do .....	100.00 .....	.....	100.00
Chinese Company .....	do .....	200.00 .....	.....	200.00
Klepple .....	do .....	200.00 .....	.....	200.00
Bochem .....	do .....	100.00 .....	.....	100.00
Nichols .....	Yankee Hill .....	8,000.00 .....	.....	8,000.00
Buchanan Hill .....	do .....	1,200.00 .....	.....	1,200.00
Rainbow Quartz .....	do .....	1,446.90 .....	.....	1,446.90
Chinese (19 mines) .....	do .....	3,000.00 .....	.....	3,000.00
Small mines .....	do .....	12,000.00 .....	.....	12,000.00
Dutch Boy .....	Strawberry Valley, Yuba County.	500.00 .....	.....	500.00
Total .....	.....	396,628.23	\$218.76	396,846.99
CALAVERAS COUNTY.				
Utica .....	Angel's .....	\$272,061.00 .....	.....	\$272,061.00
Other sources prospecting .....	do .....	12,710.00 .....	.....	12,710.00
Smyth .....	do .....	1,285.00 .....	.....	1,285.00
Ewicka and Black Wonder .....	do .....	13,000.00 .....	368.60	13,368.60
Suffolk Gold .....	do .....	223.00 .....	.....	223.00
Whittle .....	do .....	7,000.00 .....	.....	7,000.00
Small mines .....	do .....	5,000.00 .....	.....	5,000.00
Chinese .....	Copperopolis .....	610.00 .....	.....	610.00
Small mines .....	do .....	1,032.00 .....	.....	1,032.00
Lucas .....	Campo Seco .....	809.75 .....	.....	809.75
Small mines .....	Douglas Flat .....	200.00 .....	.....	200.00
Norfolk .....	Murphy's .....	4,960.80 .....	202.73	5,163.53
Roble .....	do .....	1,350.00 .....	.....	1,350.00
Small mines .....	do .....	850.00 .....	.....	850.00
Cuneo .....	Mountain Ranch .....	424.25 .....	.....	424.25
Riley .....	do .....	1,240.20 .....	.....	1,240.20
Chinese .....	do .....	300.00 .....	.....	300.00
Small mines .....	do .....	1,550.00 .....	.....	1,550.00
Gopher claim .....	Mokelumne Hill .....	75.00 .....	.....	75.00
Green Mountain .....	do .....	2,500.00 .....	.....	2,500.00
Spokane Quartz .....	do .....	13.50 .....	.....	13.50
Calaveras Blue Gravel .....	do .....	3,286.42 .....	.....	3,286.42
Happy Valley .....	do .....	4,766.00 .....	.....	4,766.00
Small mines .....	do .....	3,000.00 .....	.....	3,000.00



## RETURNS FROM MINING COMPANIES BY COUNTIES IN CALIFORNIA, 1889—Continued.

Mining company.	Post-office.	Gold.	Silver.	Total.
CALAVERAS COUNTY—continued.				
Union Shaft Gold.....	North Branch .....	\$2, 207. 75	.....	\$2, 207. 75
Benson .....	do .....	24, 000. 00	.....	24, 000. 00
Ah Ong & Co .....	do .....	6, 000. 00	.....	6, 000. 00
Chinese.....	do .....	1, 000. 00	.....	1, 000. 00
Small mines.....	do .....	500. 00	.....	500. 00
Last Chance .....	Robinson's Ferry .....	1, 240. 73	.....	1, 240. 73
Adelaide.....	do .....	1, 500. 00	.....	1, 500. 00
Chinese.....	Railroad Flat.....	1, 500. 00	.....	1, 500. 00
Small mines.....	do .....	20, 000. 00	.....	20, 000. 00
Do.....	Sheep Ranch .....	500. 00	.....	500. 00
Union Gravel shaft.....	San Andreas .....	4, 300. 00	.....	4, 300. 00
Hondrick.....	do .....	1, 225. 00	.....	1, 225. 00
Chinese.....	do .....	1, 744. 00	.....	1, 744. 00
Small mines .....	do .....	7, 475. 00	.....	7, 475. 00
Do.....	Telegraph City .....	500. 00	.....	500. 00
Chinese.....	Valley Springs .....	8, 000. 00	.....	8, 000. 00
Small mines .....	do .....	10, 000. 00	.....	10, 000. 00
Do.....	Vallecito .....	10, 000. 00	.....	10, 000. 00
Russell Reduction Works .....	West Point.....	20, 000. 00	.....	20, 000. 00
Rowe & Jenkins.....	do .....	3, 000. 00	.....	3, 000. 00
Keltz .....	do .....	1, 000. 00	.....	1, 000. 00
Cook.....	do .....	6, 000. 00	.....	6, 000. 00
Riverside.....	do .....	1, 000. 00	.....	1, 000. 00
All others .....	do .....	19, 000. 00	.....	19, 000. 00
Blazing Star.....	do .....	25, 000. 00	.....	25, 000. 00
Chinese.....	do .....	500. 00	.....	500. 00
Small mines .....	do .....	6, 000. 00	.....	6, 000. 00
Tom Paine .....	do .....	804. 06	.....	804. 06
Total .....	.....	532, 243. 46	\$571. 33	532, 814. 79
COLUSA COUNTY.				
Mawzanita Gold.....	Sulphur Creek.....	4, 060. 73	94. 64	4, 155. 37
Small mines.....	do .....	4, 532. 00	.....	4, 532. 00
Clyde.....	Williams .....	3, 000. 00	750. 00	3, 750. 00
Total .....	.....	11, 592. 73	844. 64	12, 437. 37
DEL NORTE COUNTY.				
Big Flat.....	Creseent City.....	12, 000. 00	.....	12, 000. 00
Gasquet Mines.....	Gasquet .....	4, 800. 00	.....	4, 800. 00
Total .....	.....	16, 800. 00	.....	16, 800. 00
EL DORADO COUNTY.				
Chinese.....	Coloma .....	\$9, 000. 00	.....	\$9, 000. 00
Poterson .....	do .....	420. 00	.....	420. 00
Small mines .....	Clarksville .....	3, 000. 00	.....	3, 000. 00
Everett.....	do .....	230. 00	.....	230. 00
Small mine.....	Diamond Springs.....	380. 00	.....	380. 00
Church Gold.....	El Dorado .....	8, 000. 00	.....	8, 000. 00
Idle Wild Gold .....	Garden Valley.....	4, 000. 00	.....	4, 000. 00
Dividend Placer.....	Green Valley.....	700. 00	.....	700. 00
Small Placer Mines.....	do .....	49, 975. 50	.....	49, 975. 50
Skinner.....	do .....	55. 00	.....	55. 00
Friedman.....	do .....	500. 00	.....	500. 00
Bryant .....	Georgetown .....	671. 77	.....	671. 77
Small Placer Mines .....	do .....	2, 750. 00	.....	2, 750. 00

## RETURNS FROM MINING COMPANIES BY COUNTIES IN CALIFORNIA, 1889—Continued.

Mining company.	Post-office.	Gold.	Silver.	Total.
EL DORADO COUNTY—continued.				
Chinese.....	Georgetown .....	\$7,000.00	.....	\$7,000.00
Flora Drift Gravel .....	do .....	1,550.25	\$6.00	1,556.25
Odlin .....	Grizzly Flat.....	570.00	.....	570.00
Oak Consolidated.....	do .....	96.46	2.49	98.95
Chinese Company.....	do .....	939.00	.....	939.00
Small Mines.....	do .....	1,000.00	.....	1,000.00
Armstrong .....	do .....	1,565.00	.....	1,565.00
Roberts.....	do .....	1,878.00	.....	1,878.00
Chinese.....	do .....	4,000.00	.....	4,000.00
Big Sandy.....	Kelsey.....	9,783.00	.....	9,783.00
Chinese.....	Mud Springs .....	8,000.00	.....	8,000.00
Louis Padrie.....	Nashville.....	364.97	.....	364.97
Margnerite .....	do .....	200.27	.....	200.27
Mountain Boy.....	do .....	290.00	.....	290.00
Harvey Quartz.....	do .....	270.00	.....	270.00
Inez Gold.....	do .....	600.00	.....	600.00
Adam's Gulch.....	do .....	3,750.00	.....	3,750.00
Cumberland Mill .....	do .....	800.00	.....	800.00
Gold Mountain .....	do .....	400.00	.....	400.00
Chinese .....	do .....	5,000.00	.....	5,000.00
Small mines.....	do .....	12,000.00	.....	12,000.00
Zantgraf.....	New Castle .....	14,000.00	.....	14,000.00
Glen Dolan Gravel.....	Orno Ranch.....	400.00	.....	400.00
Welker .....	Placerville.....	1,116.00	.....	1,116.00
Barnes.....	do .....	850.00	.....	850.00
Rogers Gravel .....	do .....	9,000.00	.....	9,000.00
Pacific.....	do .....	6,000.00	.....	6,000.00
Texas Hill (Gignac) .....	do .....	80.00	.....	80.00
Tokey .....	do .....	80.00	.....	80.00
Green Mountain Tunnel.....	do .....	1,189.00	.....	1,189.00
Pietra Rivera.....	do .....	1,500.00	.....	1,500.00
Chinese.....	do .....	15,000.00	.....	15,000.00
Small mines.....	do .....	5,000.00	.....	5,000.00
Lynden .....	do .....	23,043.00	.....	23,043.00
Vulture.....	do .....	141.50	.....	141.50
Chinese.....	Shingle Springs.....	6,000.00	.....	6,000.00
Potts .....	Smith's Flat .....	4,500.00	.....	4,500.00
Total .....	.....	227,638.72	8.49	227,647.21
FRESNO COUNTY.				
Harron .....	Auberry .....	\$5,699.39	.....	\$5,699.39
Sau Francisco .....	Bates .....	600.00	.....	600.00
Rattle Snake .....	do .....	580.00	.....	580.00
Small mines .....	Berenda .....	1,800.00	.....	1,800.00
Samson .....	Dunlap .....	100.00	.....	100.00
Chinese.....	Coarse Gold Gulch .....	300.00	.....	300.00
Small mines .....	do .....	3,500.00	50.00	3,550.00
Josephine .....	Grub Gulch .....	69,100.65	.....	69,100.65
Gambetta.....	do .....	10,000.00	.....	10,000.00
Small mines .....	do .....	1,000.00	.....	1,000.00
Abbey.....	Hildreth .....	46,108.07	4,079.78	50,187.85
Small mines.....	do .....	2,200.00	.....	2,200.00
Total .....	.....	140,988.11	4,129.78	145,117.89

## RETURNS FROM MINING COMPANIES BY COUNTIES IN CALIFORNIA, 1889—Continued.

Mining Company.	Post-office.	Gold.	Silver.	Total.
HUMBOLDT COUNTY.				
Small Mines.....	Arcata.....	\$25,000.00	.....	\$25,000.00
China Flat Placer.....	China Flat.....	268.71	.....	268.71
Humboldt.....	do.....	2,067.00	.....	2,067.00
Small mines.....	Eureka.....	6,000.00	.....	6,000.00
Croton Bar.....	Orleans.....	1,695.94	.....	1,695.94
Thompson Bar.....	do.....	289.00	.....	289.00
Saints' Rest.....	do.....	1,377.00	.....	1,377.00
Big Bar.....	do.....	2,800.00	.....	2,800.00
French Bar.....	do.....	408.00	.....	408.00
Rod Cap Bar.....	do.....	204.00	.....	204.00
Bristol.....	do.....	560.00	.....	560.00
Ferris.....	do.....	895.70	.....	895.70
Orleans Bar (limited).....	do.....	12,725.25	\$74.33	12,799.58
Pearch.....	do.....	3,410.55	.....	3,410.55
Chinese.....	do.....	10,000.00	.....	10,000.00
Small mines.....	do.....	8,000.00	.....	8,000.00
Lower Gold Bluffs.....	Trinidad.....	28,000.00	.....	28,000.00
Upper Gold Bluffs.....	do.....	19,000.00	.....	19,000.00
Total.....		132,701.15	74.33	132,775.48
INYO COUNTY.				
Sacramento.....	Bishop Creek.....	1,172.56	670.00	1,842.56
Baltic.....	Big Pine.....	5,276.54	.....	5,276.54
Cometti.....	do.....	11,074.26	.....	11,074.26
Small mines.....	do.....	2,985.00	2,000.00	5,985.00
Small mines.....	Cerro Gordo.....	.....	10,000.00	10,000.00
Modock Consolidated Mines.....	Darwin.....	1,136.85	241.92	1,378.77
Small mines.....	do.....	.....	8,220.00	8,220.00
Phoenix.....	do.....	486.00	.....	486.00
French.....	do.....	.....	2,516.32	2,516.32
Irish Hill Gravel.....	Ione.....	.....	184.30	184.30
Brown Monster.....	Independence.....	22,848.00	298.08	23,146.08
White Hill.....	do.....	3,000.00	.....	3,000.00
Union.....	do.....	1,000.00	.....	1,000.00
Maxim Mill and.....	do.....	2,000.00	.....	2,000.00
Coal Burner.....	Lone Pine.....	92,721.62	379.06	93,100.68
Big Treasure.....	do.....	.....	195.12	195.12
Flagstaff.....	do.....	25.85	300.70	326.55
Koynote.....	do.....	4,580.00	.....	4,580.00
Small mines.....	do.....	3,300.00	.....	3,300.00
Surprise.....	Panamint.....	.....	1,746.00	1,746.00
Hemlock.....	do.....	2,350.40	954.50	3,304.90
Total.....		153,957.08	28,706.00	182,663.08
KERN COUNTY.				
Sherman.....	Bakersfield.....	75,000.00	2,500.00	77,500.00
Long Tom.....	do.....	3,000.00	.....	3,000.00
Chinese.....	Greenwich.....	100.00	.....	100.00
Small mines.....	do.....	1,000.00	.....	1,000.00
Spar Ledge.....	Granite Station.....	1,653.60	4.85	1,658.45
Palmer.....	Havilah.....	2,714.76	13.09	2,727.85
Ophir.....	do.....	3,600.00	.....	3,600.00
Fame.....	do.....	2,400.00	.....	2,400.00



## RETURNS FROM MINING COMPANIES BY COUNTIES IN CALIFORNIA, 1889—Continued.

Mining Company.	Post-office.	Gold.	Silver.	Total.
KERN COUNTY—continued.				
Rocheport .....	Havilah .....	\$126. 00 .....	.....	\$126. 00
Shuter & McKay .....	do .....	3, 100. 00 .....	.....	3, 100. 00
Chinese .....	do .....	150. 00 .....	.....	150. 00
Small mines .....	do .....	15, 000. 00 .....	.....	15, 000. 00
Havilah Mines .....	do .....	7, 400. 00 .....	.....	7, 400. 00
Bedfish .....	do .....	18, 000. 00 .....	.....	18, 000. 00
Confidence .....	do .....	868. 14 .....	.....	868. 14
Robinson .....	Kernville .....	8, 000. 00 .....	.....	8, 000. 00
Mammoth .....	do .....	10, 100. 00 .....	.....	10, 100. 00
Tom Lane .....	Keene .....	9, 259. 96 .....	.....	9, 259. 96
Keene .....	do .....	160. 00 .....	.....	160. 00
Mann .....	Weldon .....	53, 742. 00 .....	.....	53, 742. 00
Gold Mountain .....	do .....	1, 756. 95 .....	.....	1, 756. 95
Joe Moreno .....	do .....	2, 604. 42 .....	.....	2, 604. 42
Clarkville Gravel .....	do .....	440. 52 .....	.....	440. 52
Chinese .....	do .....	2, 500. 00 .....	.....	2, 500. 00
White River Mines .....	White River .....	20, 000. 00 .....	.....	20, 000. 00
Total .....	.....	242, 676. 35 .....	\$2, 517. 94 .....	245, 194. 29
LASSEN COUNTY.				
Eclipse .....	Hayden Hill .....	1, 000. 00 .....	.....	1, 000. 00
Golden Eagle .....	do .....	79, 334. 62 .....	15. 52 .....	79, 350. 14
Harbert & Lewis .....	do .....	7, 168. 68 .....	.....	7, 168. 68
Total .....	.....	87, 503. 30 .....	15. 52 .....	87, 518. 82
LOS ANGELES COUNTY.				
Red Rover .....	Acton .....	25, 837. 50 .....	97. 00 .....	25, 934. 50
New York .....	do .....	7, 000. 00 .....	.....	7, 000. 00
Small mines .....	do .....	500. 00 .....	.....	500. 00
Mexicans .....	Newhall .....	2, 047. 80 .....	.....	2, 047. 80
Campton .....	do .....	2, 318. 00 .....	.....	2, 318. 00
Small mines .....	Ravenna .....	500. 00 .....	.....	500. 00
Total .....	.....	38, 203. 30 .....	97. 00 .....	38, 300. 30
MARIPOSA COUNTY				
Chinese .....	Bear Valley .....	4, 596. 00 .....	.....	4, 596. 00
Small mines .....	do .....	4, 573. 00 .....	.....	4, 573. 00
Sweet Water .....	Coulterville .....	15, 047. 76 .....	.....	15, 047. 76
Chinese .....	do .....	4, 207. 50 .....	.....	4, 207. 50
Small mines .....	do .....	3, 850. 00 .....	.....	3, 850. 00
Hathaway Bondurant .....	do .....	32, 000. 00 .....	.....	32, 000. 00
Duncan .....	Hornitos .....	200. 00 .....	.....	200. 00
Enterprise Mill and .....	do .....	857. 00 .....	.....	857. 00
Blue View .....	do .....	1, 800. 00 .....	.....	1, 800. 00
Francis .....	do .....	10, 000. 00 .....	.....	10, 000. 00
Mexican .....	do .....	7, 000. 00 .....	.....	7, 000. 00
Comodoro .....	do .....	1, 000. 00 .....	.....	1, 000. 00
Blaney Gravel .....	do .....	500. 00 .....	.....	500. 00
Green Valley .....	do .....	2, 000. 00 .....	.....	2, 000. 00
All others .....	do .....	6, 408. 00 .....	.....	6, 408. 00
Chinese .....	do .....	10, 000. 00 .....	.....	10, 000. 00
Chinese .....	Mariposa .....	2, 490. 00 .....	.....	2, 490. 00
Small mines .....	do .....	23, 490. 00 .....	.....	23, 490. 00
Spence .....	do .....	800. 00 .....	.....	800. 00
Total .....	.....	130, 819. 26 .....	.....	130, 819. 26

## RETURNS FROM MINING COMPANIES BY COUNTIES IN CALIFORNIA, 1889—Continued.

Mining company.	Post-office.	Gold.	Silver.	Total.
<b>MERCED COUNTY.</b>				
Spencer Gravel.....	Merced Falls .....	\$1,343.55	-----	\$1,343.55
Chinese.....	do .....	500.00	-----	500.00
Small mines .....	do .....	1,000.00	-----	1,000.00
Total .....	-----	2,843.55	-----	2,843.55
<b>MONTEREY COUNTY.</b>				
Mansfield mines .....	Mansfield .....	2,500.00	-----	2,500.00
Total.....	-----	2,500.00	-----	2,500.00
<b>MONO COUNTY.</b>				
Standard Consolidated.....	Bodie .....	137,798.98	\$11,912.59	149,711.57
Little Emily .....	Benton .....	-----	10,000.00	10,000.00
Wai Wera Consolidated.....	do .....	15,486.06	-----	15,486.06
Small mines .....	do .....	1,014.25	14,914.66	15,928.91
Chinese.....	Bridgeport.....	480.00	-----	480.00
Small mines .....	do .....	520.00	-----	520.00
Indians .....	do .....	200.00	-----	200.00
All others .....	do .....	1,240.20	-----	1,240.20
Small mines .....	Lundy .....	5,500.00	-----	5,500.00
Golden Prince .....	do .....	1,025.00	-----	1,025.00
Total .....	-----	163,264.49	36,827.25	200,091.74
<b>NAPA COUNTY.</b>				
Palisade .....	Calistoga .....	50,205.97	39,731.20	89,937.17
Total .....	-----	50,205.97	39,731.20	89,937.17
<b>NEVADA COUNTY.</b>				
Milton Water and .....	French Corral .....	6,061.00	-----	6,061.00
Quong, Sing & Co.....	do .....	12,568.39	-----	12,568.39
Slide Quartz .....	do .....	755.50	-----	755.50
North Star and Original Empire...	Grass Valley.....	413,199.32	-----	413,199.32
North Banner Consolidated Tunnel.	do .....	38,357.97	-----	38,357.97
Omaha Consolidated Gold.....	do .....	118,799.32	-----	118,799.32
Green Mountain.....	do .....	72.07	-----	72.07
Empire .....	do .....	39,500.00	-----	39,500.00
Idaho Quartz .....	do .....	479,909.07	-----	479,909.07
Gladstone.....	do .....	3,005.60	-----	3,005.60
Swamp Angel.....	Lowell Hill .....	5,850.00	-----	5,850.00
Standard .....	Moore's Flat.....	300.00	-----	300.00
Snow Point, Hydraulic, and Yuba...	do .....	20,000.00	-----	20,000.00
Small mines .....	do .....	800.00	-----	800.00
North Bloomfield Gravel.....	North Bloomfield .....	45,103.39	-----	45,103.39
Mabel Gravel.....	do .....	180,687.22	165.51	180,852.73
Waukenshaw .....	do .....	4,960.80	-----	4,960.80
Derbec Blue Gravel.....	do .....	171,637.56	696.75	172,334.31
Gold Cañon.....	do .....	10,500.00	-----	10,500.00
Sobrante.....	do .....	24,000.00	-----	24,000.00
Lincoln.....	Novada City.....	436.18	-----	436.18
Lord.....	do .....	3,000.00	-----	3,000.00
St. Johns .....	do .....	1,000.00	-----	1,000.00
Montana Quartz .....	do .....	592.90	-----	592.90
Oro Fino .....	do .....	4,000.00	-----	4,000.00
Gray.....	do .....	8,000.00	-----	8,000.00

## RETURNS FROM MINING COMPANIES BY COUNTIES IN CALIFORNIA, 1889—Continued.

Mining company.	Post-office.	Gold.	Silver.	Total.
NEVADA COUNTY—Continued.				
Original Pittsburgh.....	Nevada City.....	\$11, 123. 47		\$11, 123. 47
Champion.....	do.....	71, 315. 58	\$997. 44	72, 313. 02
Wisconsin.....	do.....	11, 200. 00	550. 00	11, 750. 00
Müller & Walling.....	do.....	696. 00		696. 00
Lecompton.....	do.....	4, 950. 00	350. 00	5, 300. 00
Gagan Quartz.....	do.....	3, 823. 31	95. 20	3, 918. 51
Chinese.....	do.....	30, 600. 00		30, 600. 00
Mountaineer.....	do.....	79, 035. 00	753. 00	79, 788. 00
Mayflower.....	do.....	3, 947. 69		3, 947. 69
Union Gravel.....	do.....	1, 000. 00		1, 000. 00
Manzanita Drift.....	do.....	36, 869. 44		36, 869. 44
Small mines.....	do.....	15, 000. 00		15, 000. 00
Ebaugh.....	do.....	1, 518. 18		1, 518. 18
Ragon & Dean.....	do.....	3, 180. 49	25. 20	3, 205. 69
Emancipation Quartz.....	do.....	4, 180. 58		4, 180. 58
Lono Star.....	do.....	592. 91		592. 91
Little Doré Quartz.....	do.....	570. 00		570. 00
Providence.....	do.....	130, 000. 00		130, 000. 00
Chinese.....	Omega.....	600. 00		600. 00
Portuguese.....	Rough and Ready.....	700. 00		700. 00
Shuler.....	do.....	950. 82		950. 82
Small mines.....	Spenceville.....	1, 000. 00		1, 000. 00
Chinese.....	Sweetland.....	4, 000. 00		4, 000. 00
Small mines.....	do.....	3, 500. 00		3, 500. 00
Brown.....	You Bet.....	15, 000. 00		15, 000. 00
Small mines.....	Nevada County.....	18, 334. 00		18, 334. 00
Chinese.....	do.....	19, 000. 00		19, 000. 00
Rocky Glen Gold.....	do.....	12, 503. 00		12, 503. 00
Total.....		2, 078, 286. 76	3, 633. 10	2, 081, 919. 86
ORANGE COUNTY.				
Bavarian.....	Anaheim.....		4, 449. 45	4, 449. 45
Alma.....	Santa Ana.....	62. 01	824. 50	886. 51
Total.....		62. 01	5, 273. 95	5, 335. 96
PLACER COUNTY.				
Moore.....	Auburn.....	10, 055. 18		10, 055. 18
Mammoth Bar.....	do.....	9, 443. 25		9, 443. 25
Hathaway.....	do.....	40, 000. 00		40, 000. 00
Eclipse.....	do.....	5, 000. 00		5, 000. 00
Small mines.....	do.....	25, 000. 00		25, 000. 00
Chinese.....	do.....	2, 300. 00		2, 300. 00
Paragon.....	Bath.....	54, 077. 70		54, 077. 70
Hosmer.....	do.....	2, 000. 00		2, 000. 00
Fourth of July and Independence.....	Blue Canyon.....	1, 500. 00		1, 500. 00
Chinese.....	Butcher Ranch.....	500. 00		500. 00
Indians.....	do.....	500. 00		500. 00
Christmas Hill.....	do.....	1, 500. 00		1, 500. 00
Whiteman Placer.....	do.....	480. 00		480. 00
All others.....	Emigrant Gap.....	57, 857. 00		57, 857. 00
Small mines.....	do.....	1, 657. 00		1, 657. 00
Morgan Gravel.....	Dutch Flat.....	2, 000. 00		2, 000. 00
Chinese.....	do.....	10, 000. 00		10, 000. 00



## RETURNS FROM MINING COMPANIES BY COUNTIES IN CALIFORNIA, 1889—Continued.

Mining company.	Post-office.	Gold.	Silver.	Total.
PLACER COUNTY—continued.				
Smith's Point.....	Forost Hill .....	\$2, 750.21	\$7. 81	\$2, 758.02
Chineso.....	do .....	6, 000.00		6, 000.00
Small mines .....	do .....	2, 500.00		2, 500.00
Small Hopo.....	do .....	300.00		300.00
Mayflower.....	do .....	332, 042.88	1, 600.75	333, 643.63
All others .....	do .....	30, 260.00		30, 260.00
Cranago Drift.....	do .....	2, 200.00		2, 200.00
Sumpter.....	Iowa City .....	1, 939.06		1, 939.06
Sinclair.....	do .....	700.95		700.95
Golden River .....	do .....	68, 465.54		68, 465.54
Chineso.....	do .....	62, 500.00		62, 500.00
Small mines .....	do .....	6, 640.00		6, 640.00
North Star .....	do .....	50, 000.00		50, 000.00
Pioneer .....	do .....	45, 000.00	366.56	45, 366.56
Drummond .....	do .....	5, 750.00		5, 750.00
Morning Star Gravel Drift .....	Iowa Hill.....	26, 769.00		26, 769.00
Strawberry .....	do .....	5, 508.61		5, 508.61
Strawberry Chineso Co .....	do .....	4, 500.00		4, 500.00
Sholby .....	do .....	2, 730.00		2, 730.00
Big Gun or Van Eman .....	Michigan Bluff .....	500.00		500.00
Hidden Treasure .....	do .....	116, 094.25		116, 094.25
Bald Mountain.....	do .....	9.00		9.00
Elk Horn .....	do .....	2, 067.00		2, 067.00
Danis Placer.....	do .....	12, 000.00		12, 000.00
Rainbow .....	do .....	4, 000.00		4, 000.00
Lawretzon .....	Now Castlo .....	1, 777.62		1, 777.62
Hathaway .....	do .....	124, 939.82		124, 939.82
Almont .....	Ophir.....	4, 371.21		4, 371.21
Gold Blossom .....	do .....	6, 500.00		6, 500.00
Three Stars.....	do .....	3, 500.00		3, 500.00
Good Friday .....	do .....	2, 082.00		2, 082.00
Chinese.....	Pino (Loomis) .....	140.00		140.00
Small mines.....	Penryn .....	1, 298.00		1, 298.00
Chicago Phoenix .....	do .....	1, 172.25		1, 172.25
Lee .....	Rocklyn .....	30, 000.00		30, 000.00
River Canyon Flat Mountain .....	Todds .....	2, 350.00		2, 350.00
Cook and Newman.....	do .....	496.08		496.08
Pioneer Quartz .....	Towle (Alta) .....	23, 800.00		23, 800.00
Small mines .....	do .....	3, 500.00		3, 500.00
Last Chance .....	Yankee Jims.....	800.00		800.00
Small mines .....	do .....	5, 000.00		5, 000.00
Small mines .....	Nevada County.....	9, 167.00		9, 167.00
Chineso.....	do .....	9, 500.00		9, 500.00
Total.....		1, 245, 490.61	1, 975.12	1, 247, 465.73
PLUMAS COUNTY.				
Small mines.....	Beckwith.....	20, 000.00		20, 000.00
Chineso.....	Bucks Ranch.....	1, 000.00		1, 000.00
Small mines.....	do .....	12, 000.00		12, 000.00
Bucks Ranch mines.....	do .....	15, 000.00		15, 000.00
Crescent Mill .....	Crescent Mills.....	59, 302.23		59, 302.23
Plumas Eureka .....	do .....	349, 409.09		349, 409.09

## RETURNS FROM MINING COMPANIES BY COUNTIES IN CALIFORNIA, 1889—Continued.

Mining company.	Post-office.	Gold.	Silver.	Total.
PLUMAS COUNTY—continued.				
Small mines.....	Crescent Mills .....	\$2, 207. 00 .....		\$2, 207. 00
All others.....	do .....	49, 950. 00 .....		49, 950. 00
Drury .....	Greenville .....	1, 123. 07 .....		1, 123. 07
Pacific .....	do .....	1, 267. 76 .....	\$2. 43	1, 270. 19
Small mines.....	do .....	8, 000. 00 .....		8, 000. 00
Chinese.....	Genesee .....	100. 00 .....		100. 00
Small mines.....	do .....	1, 000. 00 .....		1, 000. 00
Genesee Valley Gold.....	do .....	7, 004. 00 .....		7, 004. 00
Green Ledge.....	do .....	560. 00 .....		560. 00
Dame & Stewart.....	do .....	450. 00 .....		450. 00
Small mines.....	Johnsville .....	29, 926. 00 .....		29, 926. 00
Live Oak Mine.....	Live Oak .....	9. 65 .....		9. 65
Barton & Stiles.....	Meadow Valley .....	1, 200. 00 .....		1, 200. 00
Small mines.....	Mohawk.....	10, 000. 00 .....		10, 000. 00
Chinese.....	do .....	2, 000. 00 .....		2, 000. 00
Young GoeY Chinese Company .....	Nelson Point.....	1, 033. 50 .....		1, 033. 50
Texas Hill.....	do .....	826. 80 .....		826. 80
Black Bear.....	do .....	3, 721. 60 .....		3, 721. 60
Crumpton.....	do .....	1, 000. 00 .....		1, 000. 00
Kendal.....	do .....	5, 014. 00 .....		5, 014. 00
Glazier.....	Prattville.....	69, 723. 81 .....		69, 723. 81
Chinese.....	Spanish Ranch .....	6, 716. 00 .....		6, 716. 00
Small mines.....	do .....	17, 633. 22 .....		17, 633. 22
Rush Creek Flat.....	do .....	300. 00 .....		300. 00
Plumas Water .....	do .....	6, 216. 00 .....		6, 216. 00
Rich Bar.....	do .....	319. 66 .....		319. 66
Taylorsville Mill.....	Taylorsville .....	1, 900. 00 .....		1, 900. 00
Small mines.....	do .....	1, 359. 00 .....		1, 359. 00
Lucky Saturday.....	do .....	1, 900. 00 .....		1, 900. 00
Morton.....	do .....	800. 00 .....		800. 00
Brown Bear.....	Wash.....	196. 10 .....		196. 10
Chinese.....	Plumas County.....	6, 586. 00 .....		6, 586. 00
Total .....		696, 754. 49 .....	2. 43	696, 756. 92
SACRAMENTO COUNTY.				
Eckardt .....	Folsom .....	6, 420. 00 .....		6, 420. 00
Chinese.....	do .....	100, 000. 00 .....		100, 000. 00
Small mines.....	do .....	70, 000. 00 .....		70, 000. 00
Consummes Land and Water Co' .....	Michigan Bar.....	9, 727. 77 .....		9, 727. 77
Jordan.....	do .....	1, 200. 00 .....		1, 200. 00
Small mines.....	Sacramento .....	9, 727. 77 .....		9, 727. 77
Total .....		197, 075. 54 .....		197, 075. 54
SAN BERNARDINO COUNTY.				
Bismarck .....	Calico .....		2, 502. 60	2, 502. 60
Barber mill and.....	do .....		95, 000. 00	95, 000. 00
Young Waterman .....	do .....		6, 484. 70	6, 484. 70
Dana .....	do .....		5, 238. 00	5, 238. 00
Blackfoot .....	do .....		9, 506. 00	9, 506. 00
Jesse Tay.....	do .....		1, 067. 00	1, 067. 00
Morning Star.....	Daggett .....	50. 00 .....	48. 50	98. 50
Waterloo .....	do .....		493, 323. 57	493, 323. 57
Small mines.....	do .....		1, 000. 00	1, 000. 00

## RETURNS FROM MINING COMPANIES BY COUNTIES IN CALIFORNIA, 1889—Continued.

Mining company.	Post-office.	Gold.	Silver.	Total.
SAN BERNARDINO COUNTY—cont'd.				
Sampson.....	Daggett.....		\$15.00	\$15.00
Yellow Jacket.....	Grapeland.....	\$540.00		540.00
Small mines.....	do.....	2,000.00		2,000.00
Grapevino Placer.....	do.....	1,500.00		1,500.00
Ivanpah Consolidated.....	Ivanpah.....		1,214.95	1,214.95
Stonewall.....	do.....		4,669.08	4,669.08
Bryfogle.....	do.....		1,000.00	1,000.00
Oro Grande mines.....	Oro Grande.....	3,000.00		3,000.00
Hall.....	Providenceo.....	863.14	339.50	1,202.64
Golden Queen.....	do.....	865.00		865.00
La Prieta.....	do.....	450.00		450.00
Mineral Point.....	do.....	90.00		90.00
Perseveranco.....	do.....	1,000.00		1,000.00
Grey Hound.....	do.....	85.00		85.00
Cashier.....	Needles.....	82.68	411.10	493.78
Small mines.....	Victor.....	206.70		206.70
Total.....		10,737.52	621,820.00	632,557.52
SANTA BARBARA COUNTY.				
Lompoc Beach.....	Lompoc.....	4,009.98		4,009.98
Do.....	do.....	113.69		113.69
Small mines.....	do.....	3,000.00		3,000.00
Lanner & Spence.....	do.....	3,871.30		3,871.30
Henning & Hesser.....	do.....	113.68		113.68
Bear Creek beach mines.....	do.....	3,000.00		3,000.00
Lompoc.....	do.....	1,620.00		1,620.00
Beach mines.....	do.....	25,194.50		25,194.50
Small mines.....	Santa Ynez.....	500.00		500.00
Total.....		41,423.15		41,423.15
SAN DIEGO COUNTY.				
Stonewall.....	Cuyamaca.....	214,000.00		214,000.00
Indio mines.....	Indio.....	3,600.50		3,600.50
Small mines.....	do.....	1,500.00		1,500.00
Shenandoah.....	Mesa Grande.....	41,340.00		41,340.00
Good Hope Consolidated Gold.....	Pinacate.....	10,000.00		10,000.00
Total.....		270,440.50		270,440.50
SAN LUIS OBISPO COUNTY.				
Ensign.....	La Panza.....	60.00		60.00
Small mines.....	do.....	500.00		500.00
Hoagland Placer.....	do.....	3,000.00		3,000.00
Still.....	do.....	200.00		200.00
Small mines.....	San Luis Obispo.....	1,500.00		1,500.00
Total.....		5,260.00		5,260.00
SHASTA COUNTY.				
Spring Creek.....	Copley.....	1,498.99		1,498.99
Utah and California Gold.....	Buckeye.....	54,281.60		54,281.60
Mammoth.....	do.....	15,000.00		15,000.00
Small placer mines.....	Copper City.....	5,000.00		5,000.00
Chinese.....	Cottonwood.....	480.00		480.00
Niagara Mill.....	French Gulch.....	31,408.45		31,408.45



## RETURNS FROM MINING COMPANIES BY COUNTIES IN CALIFORNIA, 1889—Continued.

Mining company.	Post-office.	Gold.	Silver.	Total.
SHASTA COUNTY—continued.				
American.....	French Gulch .....	\$6,454.59	\$48.50	\$6,503.09
Sybil Quartz.....	do .....	826.80	67.90	894.70
Texas and Georgia Consolidated.....	do .....	40,000.00	400.00	40,400.00
Mocking Bird .....	do .....	33.00	.....	33.00
Black Hawk.....	do .....	33.00	.....	33.00
Falls.....	do .....	306.38	5.30	311.68
Arastra.....	do .....	500.00	.....	500.00
Wright's .....	do .....	200.00	.....	200.00
Gladstone.....	do .....	41,000.00	150.00	41,150.00
Chicago.....	Igo .....	1,033.50	2,716.00	3,749.50
Shirland Bros .....	do .....	525.00	.....	525.00
Dixon & Cooper .....	do .....	1,800.00	.....	1,800.00
Chinese.....	do .....	15,000.00	.....	15,000.00
Small mines.....	do .....	2,000.00	.....	2,000.00
Hope .....	do .....	488.76	8.34	497.10
Uncle Sam .....	Kennet .....	50,820.24	.....	50,820.24
Summit .....	Oro .....	20,499.03	.....	20,499.03
Small mines.....	do .....	1,000.00	.....	1,000.00
Big Charley.....	do .....	2,500.00	.....	2,500.00
Tunny Hill .....	do .....	10,000.00	.....	10,000.00
Williams .....	Stella .....	780.00	.....	780.00
Chinese .....	do .....	300.00	.....	300.00
Small mines.....	do .....	1,500.00	.....	1,500.00
Little Nellie .....	Shasta.....	4,000.00	.....	4,000.00
Small mines.....	Wagh .....	550.00	.....	550.00
Wentrop .....	Ydalpom .....	400.00	.....	400.00
Jenny June.....	do .....	412.00	.....	412.00
Chinese.....	do .....	4,000.00	.....	4,000.00
Small mines.....	do .....	1,000.00	.....	1,000.00
Total .....		315,631.34	3,396.04	319,027.38
SIERRA COUNTY.				
Buckeye Gravel .....	Alleghany .....	2,931.98	.....	2,931.98
Mariposa Quartz .....	do .....	44,330.32	.....	44,330.32
El Dorado Quartz .....	do .....	1,200.00	.....	1,200.00
Sierra Quartz.....	do .....	978.50	22.50	1,001.00
Small mines.....	do .....	10,000.00	.....	10,000.00
Kenton .....	do .....	1,209.20	.....	1,209.20
Brandy City.....	Brandy City .....	45,186.47	.....	45,186.47
St. Clair .....	Camptonville, Yuba County.	5,984.27	.....	5,984.27
American Hill.....	Downieville .....	6,000.00	.....	6,000.00
Mowroy & Company .....	do .....	7,000.00	.....	7,000.00
Atwood.....	do .....	2,000.00	.....	2,000.00
Excelsior .....	do .....	3,000.00	.....	3,000.00
Gold Bluff .....	do .....	20,708.38	.....	20,708.38
Scammon & Co .....	do .....	15,000.00	.....	15,000.00
Morse .....	do .....	2,000.00	.....	2,000.00
Richards .....	do .....	2,000.00	.....	2,000.00
Chinese .....	do .....	11,390.00	.....	11,390.00
Denmiro.....	do .....	375.87	.....	375.87
Small mines.....	do .....	300.00	.....	300.00
Archambo .....	do .....	1,600.00	.....	1,600.00
Morton .....	do .....	700.00	.....	700.00

## RETURNS FROM MINING COMPANIES BY COUNTIES IN CALIFORNIA, 1889—Continued.

Mining company.	Post-office.	Gold.	Silver.	Total.
SIERRA COUNTY—continued.				
Maxen .....	Downieville .....	\$900.00	.....	\$900.00
Van Vaullegly .....	do .....	1,000.00	.....	1,000.00
Carpenter .....	do .....	600.00	.....	600.00
Ward .....	do .....	800.00	.....	800.00
Galliger .....	do .....	400.00	.....	400.00
Carlson .....	do .....	1,500.00	.....	1,500.00
Davis .....	do .....	500.00	.....	500.00
Webster .....	do .....	500.00	.....	500.00
Shey Cañon Company .....	do .....	1,200.00	.....	1,200.00
Easley .....	do .....	800.00	.....	800.00
Lind .....	do .....	700.00	.....	700.00
Richardson .....	do .....	500.00	.....	500.00
Buso .....	do .....	900.00	.....	900.00
Warnemaker .....	do .....	500.00	.....	500.00
Kanauf .....	do .....	1,000.00	.....	1,000.00
Quong Fong Hi Company .....	do .....	2,500.00	.....	2,500.00
Fong Kee Company .....	do .....	2,000.00	.....	2,000.00
Ah Mow & Co .....	do .....	1,600.00	.....	1,600.00
Sailer Roane Chinese Company .....	do .....	1,900.00	.....	1,900.00
Chung Lee & Co .....	do .....	2,000.00	.....	2,000.00
Carney & Co .....	do .....	800.00	.....	800.00
Wide Awake .....	do .....	2,096.25	.....	2,096.25
Rattlesnake Gold .....	do .....	534.75	.....	534.75
Ruby Gold Gravel .....	Forest City .....	43,000.00	.....	43,000.00
Small mines .....	Gibsonville .....	26,000.00	.....	26,000.00
Chinese .....	Goodyear's Bar .....	6,000.00	.....	6,000.00
Small mines .....	do .....	9,000.00	.....	9,000.00
Little Giant .....	Mountain House .....	2,000.00	.....	2,000.00
Tippecanoe .....	Pike City .....	950.82	.....	950.82
Union Consolidated Drift Mines .....	Port Wine .....	93,269.73	\$199.52	93,469.25
Sierra Buttes .....	Sierra City .....	136,515.45	.....	136,515.45
Hayes & Steelman .....	do .....	800.00	.....	800.00
New York .....	do .....	3,000.00	.....	3,000.00
Small mines .....	do .....	8,601.00	.....	8,601.00
Young America Consolidated Gold .....	do .....	272,073.42	.....	272,073.42
Marguerita .....	do .....	18.50	.....	18.50
Cleveland and Sierra .....	Sealos .....	3,000.00	.....	3,000.00
Fair Play .....	do .....	16,000.00	.....	16,000.00
Caledonia .....	St. Louis .....	15,408.00	.....	15,408.00
Chinese .....	do .....	5,000.00	.....	5,000.00
Star .....	do .....	2,480.40	.....	2,480.40
Bruekerman .....	Table Rock .....	483.60	.....	483.60
Chinese .....	Sierra County .....	12,000.00	.....	12,000.00
Brandy City and Sealo Diggings .....	Camptonville, Yuba County.	60,751.00	.....	60,751.00
Total .....	.....	925,477.91	222.02	925,699.93
SISKIYOU COUNTY.				
Cecilville mines .....	Cecilville .....	20,000.00	.....	20,000.00
Summerville Hydraulic .....	Carrville (Trinity Co.) .....	11,443.12	.....	11,443.12
Montezuma .....	Callahan's Ranch .....	10,000.00	.....	10,000.00
A. B. C .....	do .....	1,400.00	.....	1,400.00
Feeh .....	do .....	20,000.00	.....	20,000.00
Sugar Hill .....	do .....	1,857.30	.....	1,857.30

## RETURNS FROM MINING COMPANIES BY COUNTIES IN CALIFORNIA, 1889—Continued.

Mining company.	Post-office.	Gold.	Silver.	Total.
SISKIYOU COUNTY—continued.				
Chinese.....	Callahan's Ranch.....	\$25,000.00	.....	\$25,000.00
Small mines .....	do .....	20,000.00	.....	20,000.00
Aubery .....	Cottage Grove .....	1,954.00	.....	1,954.00
Rock Creek.....	do .....	2,060.40	.....	2,060.40
Stanshaw .....	do .....	1,994.50	.....	1,994.50
Pox Bar Placer .....	do .....	2,105.00	.....	2,105.00
Elliott .....	do .....	2,000.00	.....	2,000.00
Quartz Valley Placer .....	Etna Mills.....	11,000.00	.....	11,000.00
Small mines .....	do .....	6,910.57	.....	6,910.57
Chinese .....	Forks of Salmon.....	6,000.00	.....	6,000.00
Small mines .....	do .....	10,000.00	.....	10,000.00
Bloomer Hydraulic .....	do .....	10,000.00	.....	10,000.00
McNeal Hill .....	do .....	2,000.00	.....	2,000.00
Bennett.....	do .....	20,000.00	.....	20,000.00
Shumway .....	do .....	620.10	.....	620.10
K. N. Quartz .....	do .....	27,368.82	\$270.94	27,639.76
Crooker Bros .....	Fort Jones.....	3,472.56	.....	3,472.56
Chinese .....	do .....	11,082.00	.....	11,082.00
Small mines .....	do .....	102,825.00	.....	102,825.00
Thomas.....	do .....	3,000.00	.....	3,000.00
Fort Jones mines .....	do .....	31,500.00	.....	31,500.00
Consolidated Siwash Placer .....	do .....	518.35	.....	518.35
Elk Bar.....	Happy Camp .....	2,125.00	.....	2,125.00
Happy Camp mines.....	do .....	90,000.00	.....	90,000.00
Classic Hill.....	do .....	15,500.00	.....	15,500.00
Siskiyou .....	do .....	7,500.40	.....	7,500.40
Blue Gravel Hydraulic.....	Henley .....	245.00	.....	245.00
Singleton Drift .....	Hamburgh.....	2,750.62	.....	2,750.62
Learned .....	do .....	9,000.00	.....	9,000.00
Chinese.....	do .....	9,900.00	.....	9,900.00
Centennial.....	Honolulu.....	8,016.60	.....	8,016.60
Poverty Pt. Placer.....	Oak Bar.....	1,000.00	.....	1,000.00
Oak Bar mines.....	do .....	20,000.00	.....	20,000.00
Blind Lode.....	Oro Fino.....	1,500.00	.....	1,500.00
S. B. H. Co.....	Scott River.....	2,645.76	.....	2,645.76
Chinese.....	do .....	85,000.00	.....	85,000.00
Small mines.....	do .....	67,000.00	.....	67,000.00
Stelle .....	do .....	5,000.00	.....	5,000.00
Harris Bros .....	Sawyer's Bar.....	1,498.58	.....	1,498.58
Olson .....	do .....	3,000.00	.....	3,000.00
Gold Hill Placer.....	do .....	1,500.00	.....	1,500.00
Mountain Laurel.....	do .....	37,731.20	.....	37,731.20
Nicolot .....	do .....	1,020.00	.....	1,020.00
Uncle Sam.....	do .....	5,400.00	.....	5,400.00
Fagundes.....	do .....	12,000.00	.....	12,000.00
White's Bar .....	do .....	1,500.00	.....	1,500.00
Finley .....	do .....	1,200.00	.....	1,200.00
Eddies Gulch .....	do .....	350.00	.....	350.00
Burns.....	do .....	3,000.00	.....	3,000.00
Anderson.....	do .....	600.00	.....	600.00
Casey .....	do .....	700.00	.....	700.00
Paradise Flat.....	do .....	4,000.00	.....	4,000.00
Steamboat.....	do .....	1,100.00	.....	1,100.00



## RETURNS FROM MINING COMPANIES BY COUNTIES IN CALIFORNIA, 1889—Continued.

Mining company.	Post-office.	Gold.	Silver.	Total.
SISKIYOU COUNTY—continued.				
Mohr .....	Sawyer's Bar .....	\$700.00 .....	.....	\$700.00
Red Hill or Ahlgreen .....	do .....	4,000.00 .....	.....	4,000.00
Russian Hill .....	do .....	4,000.00 .....	.....	4,000.00
Rundle & Barry .....	do .....	3,000.00 .....	.....	3,000.00
J. Barry .....	do .....	800.00 .....	.....	800.00
Deep Channel or Bigelow .....	do .....	2,000.00 .....	.....	2,000.00
Small mines .....	do .....	100,000.00 .....	.....	100,000.00
Willow Bar .....	Sciad Valley .....	700.00 .....	.....	700.00
Woods Eoy's Claim .....	do .....	15,000.00 .....	.....	15,000.00
Miller, Matt & Co .....	Yreka .....	7,200.00 .....	.....	7,200.00
Total .....	.....	905,294.88	\$270.94	905,565.82
STANISLAUS COUNTY.				
La Grange Ditch, and Hydraulic .....	La Grange .....	15,410.15 .....	.....	15,410.15
Total .....	.....	15,410.15	.....	15,410.15
TULARE COUNTY.				
S. Cowen .....	Alila .....	101.00 .....	.....	101.00
Keyes .....	White River .....	6,789.26 .....	.....	6,789.26
Chinese .....	do .....	700.00 .....	.....	700.00
Small mines .....	do .....	25,750.00 .....	.....	25,750.00
Total .....	.....	33,340.26	.....	33,340.26
TRINITY COUNTY.				
Taylor's Flat .....	Big Bar .....	13,000.00 .....	.....	13,000.00
Big Bar Mines .....	do .....	19,000.00 .....	.....	19,000.00
Trinity River Tunnel and .....	do .....	1,300.00 .....	.....	1,300.00
Summerville Hydraulic .....	Carrville .....	11,443.12 .....	.....	11,443.12
Yellowstone .....	Coleridge .....	5,205.95 .....	.....	5,205.95
North Star .....	do .....	1,800.00 .....	.....	1,800.00
Ozark .....	do .....	5,000.00 .....	.....	5,000.00
Fountain Head .....	do .....	2,000.00 .....	.....	2,000.00
Enterprise .....	do .....	21,890.62 .....	.....	21,890.62
Golden Chest .....	do .....	3,000.00 .....	.....	3,000.00
Mountain Boomer .....	Cœur .....	25,000.00 .....	.....	25,000.00
Hard Tack .....	do .....	3,000.00 .....	.....	3,000.00
Tough Nut .....	do .....	3,400.00 .....	.....	3,400.00
Hunter .....	do .....	500.00 .....	.....	500.00
Hidden Treasury .....	do .....	2,800.00 .....	.....	2,800.00
Excelsior .....	do .....	3,300.00 .....	.....	3,300.00
Sherwood .....	do .....	5,450.40 .....	.....	5,450.40
Small mines .....	Deadweed .....	1,000.00 .....	.....	1,000.00
Silcox .....	Douglas City .....	20,670.00 .....	.....	20,670.00
Drinkwater .....	Hay Fork .....	2,400.00 .....	.....	2,400.00
Sheridan Bros .....	Junction City .....	3,100.50 .....	.....	3,100.50
Soldiers' Bar .....	do .....	10,128.30 .....	.....	10,128.30
Sturdivant Hydraulic .....	do .....	1,800.00 .....	.....	1,800.00
Chinese .....	do .....	49,000.00 .....	.....	49,000.00
Small mines .....	do .....	15,000.00 .....	.....	15,000.00
Mammoth .....	do .....	25,826.00 .....	.....	25,826.00
Chapman & Fisher .....	do .....	11,000.00 .....	.....	11,000.00
Haas .....	do .....	10,750.00 .....	.....	10,750.00
Hay's Gold .....	do .....	25,000.00 .....	.....	25,000.00
McGilvary or Lorenz .....	do .....	18,061.20 .....	.....	18,061.20
Chinese .....	Lewiston .....	3,325.00 .....	.....	3,325.00
Small mines .....	do .....	11,094.50 .....	.....	11,094.50

## RETURNS FROM MINING COMPANIES BY COUNTIES IN CALIFORNIA, 1889—Continued.

Mining company.	Post-office.	Gold.	Silver.	Total.
TRINITY COUNTY—continued.				
Chinese.....	Minersville.....	\$1,000.00	.....	\$1,000.00
Small mines.....	do.....	2,500.00	.....	2,500.00
Hatchet Creek.....	Trinity Center.....	3,387.75	.....	3,387.75
Moore.....	do.....	82.68	.....	82.68
Trinity Gold.....	Weaverville.....	8,300.00	.....	8,300.00
Rule Bros.....	do.....	7,067.00	.....	7,067.00
Sowden Bros.....	do.....	446.75	.....	446.75
West Weaver Creek.....	do.....	300.00	.....	300.00
Taylor's Flat.....	do.....	2,000.00	.....	2,000.00
Chinese.....	do.....	800.00	.....	800.00
Do.....	do.....	290,000.00	.....	290,000.00
Small mines.....	do.....	49,500.00	.....	49,500.00
Quong Auk Hong.....	do.....	11,000.00	.....	11,000.00
Total.....	.....	711,632.77	.....	711,632.77
TUOLUMNE COUNTY.				
Butler.....	Big Oak Flat.....	1,800.00	.....	1,800.00
Mississippi.....	do.....	60.70	.....	60.70
Chinese.....	do.....	3,000.00	.....	3,000.00
Small mines.....	do.....	8,000.00	.....	8,000.00
Longfellow.....	do.....	10,000.00	.....	10,000.00
Empiro Gravel.....	Columbia.....	1,532.00	.....	1,532.00
Wiedekind Placer.....	do.....	1,500.00	.....	1,500.00
Wiedekind Experimental Placer.....	do.....	200.00	.....	200.00
Rifle.....	do.....	38.25	.....	38.25
Small pocket mines.....	do.....	30,000.00	.....	30,000.00
Columbia.....	do.....	15,000.00	.....	15,000.00
Chinese.....	do.....	3,000.00	.....	3,000.00
Captain Griffin.....	do.....	1,446.90	.....	1,446.90
Chinese.....	Carters.....	100.00	.....	100.00
Small mines.....	do.....	500.00	.....	500.00
Maffitt.....	Chinese Camp.....	1,400.00	.....	1,400.00
Benj. Harrison.....	do.....	3,100.00	.....	3,100.00
Chinese.....	do.....	5,621.00	.....	5,621.00
Small mines.....	do.....	7,285.00	.....	7,285.00
Mary Ellen.....	Groveland.....	2,489.17	\$42.60	2,531.77
Quartz Mountain Gold.....	Jamestown.....	7,400.65	.....	7,400.65
Dutch.....	do.....	5,330.26	.....	5,330.26
Chinese.....	do.....	236.00	.....	236.00
Small mines.....	do.....	10,288.27	.....	10,288.27
App.....	do.....	169.80	.....	169.80
Alameda.....	do.....	1,067.00	.....	1,067.00
Winter Quartz.....	Sequori.....	484.63	1.30	485.93
Platt & Gilson.....	Sonlsbyville.....	8,844.61	.....	8,844.61
Mother Lode Quartz.....	Tuolumne County.....	751.00	.....	751.00
Consolidated Eureka Gold.....	do.....	40,655.00	.....	40,655.00
Total.....	.....	171,300.24	43.90	171,344.14
YUBA COUNTY.				
Chinese.....	Bullards Bar.....	500.00	.....	500.00
Small mines.....	do.....	250.00	.....	250.00
Joubert Hydraulic.....	Camptownville.....	7,000.00	15.00	7,015.00
Kendall.....	do.....	77.45	.....	77.45
Chinese.....	do.....	6,330.00	.....	6,330.00

## RETURNS FROM MINING COMPANIES BY COUNTIES IN CALIFORNIA, 1889—Continued.

Mining company.	Post-office.	Gold.	Silver.	Total.
YUBA COUNTY—continued.				
Small mines .....	Camptonville .....	\$29,456.35 .....		\$29,456.35
Blue Point Drift Gravel .....	Smartsville .....	42,702.00 .....		42,702.00
Eagle Gulch .....	Strawberry Valley .....	452.50 .....		452.50
Lost Creek Chinaor .....	do .....	400.00 .....		400.00
Doadwood .....	do .....	398.77 .....		398.77
Small mines .....	do .....	8,755.00 .....		8,755.00
Kiekapoo .....	do .....	826.80 .....		826.80
Loveland .....	do .....	300.00 .....		300.00
Wilson .....	do .....	100.00 .....		100.00
Garno .....	do .....	100.00 .....		100.00
Dutch Boy .....	do .....	105.00 .....		105.00
Total .....		97,753.87	\$15.00	97,768.87

## RECAPITULATION.

County.	Gold.	Silver.	Total.
Amador .....	\$1,160,975.98	\$4,398.45	\$1,165,374.43
Butte .....	396,628.23	218.76	396,846.99
Calaveras .....	532,243.46	571.33	532,814.79
Colusa .....	11,592.73	844.64	12,437.37
Del Norte .....	16,800.00		16,800.00
El Dorado .....	227,638.72	8.49	227,647.21
Fresno .....	140,988.11	4,129.78	145,117.89
Humboldt .....	132,701.15	74.33	132,775.48
Inyo .....	153,957.08	28,706.00	182,663.08
Kern .....	242,676.35	2,517.94	245,194.29
Lassen .....	87,503.30	15.52	87,518.82
Los Angeles .....	38,203.30	97.00	38,300.30
Mariposa .....	130,819.26		130,819.26
Merced .....	2,843.55		2,843.55
Monterey .....	2,500.00		2,500.00
Mono .....	163,264.49	36,827.25	200,091.74
Napa .....	50,205.97	39,731.20	89,937.17
Nevada .....	2,078,286.76	3,633.10	2,081,919.86
Orange .....	62.01	5,273.95	5,335.96
Placer .....	1,245,490.61	1,975.12	1,247,465.73
Plumas .....	696,754.49	2.43	696,756.92
Sacramento .....	197,075.54		197,075.54
San Bernardino .....	10,737.52	621,820.00	632,557.52
Santa Barbara .....	41,423.15		41,423.15
San Diego .....	270,440.50		270,440.50
San Louis Obispo .....	5,260.00		5,260.00
Shasta .....	315,631.34	3,396.04	319,027.38
Sierra .....	925,477.91	222.02	925,699.93
Siskiyou .....	905,294.88	270.94	905,565.82
Stanislaus .....	15,410.15		15,410.15
Tulare .....	33,340.26		33,340.26
Trinity .....	711,632.77		711,632.77
Tuolumne .....	171,300.24	43.90	171,344.14
Yuba .....	97,753.87	15.00	97,768.87
Total .....	\$11,212,913.68	\$754,793.19	\$11,967,706.87



*MINING IN CALIFORNIA.*

By CHARLES G. YALE.

The principal mining industry of California is that connected with the extraction of gold from quartz and gravel, and the State still continues to hold first place in the list of States and Territories in the matter of gold product, from year to year. In the earlier history of gold mining in California, the main portion of the precious metal was procured from the placers or surface washings in the gulches, cañons, and river bars and beds, and for many years an enormous yield was maintained from these sources. Gradually, however, as was to be expected, the area available for this kind of mining was narrowed as ground was worked out, and then attention was turned to other sources of gold supply.

Finding, as the miners of those days did, these auriferous deposits only at certain points, they very naturally looked near by for the source of the free placer gold. This led to the search for quartz veins and also for the large bodies of auriferous gravel which were contained in the hills of the mining counties of the State. In time the gravel deposits were found and located and the quartz ledges opened and developed. Then the character of the mining and the character of the mining population changed. It was no longer possible for a nomadic miner with pick and pan to gather a fortune in a few days from a deposit which nature had concentrated for him in a few yards of earth. It became necessary to employ capital as well as labor in the mining operations of the State. Companies took the place of the individual miner, built ditches to bring in water to the gravel claims, and mills to crush the ore from the quartz veins. The miners gradually stopped working for themselves and were employed by the companies for daily wages. They became more settled in their habits, gave up their nomadic instincts, and became permanent residents of the little mining camps and larger mining towns where they were sure of steady employment in the mines or mills. Of course there are still many prospectors in the mountain counties as well as miners who are working their own claims, but the majority of the mining population is now engaged in work for the companies, who are operating the mines on a more extensive scale than is usually possible for individuals.

The era of speculative mining incidental to newly settled mining regions has also passed by in California.

In the earlier history of gold mining in this State, some very foolish and extravagant ideas prevailed and many mistakes were made. As a result many mines had to be abandoned after more or less loss, and people came to look upon gold quartz mining as a risky business. It was found ultimately that the fault lay more with the men themselves

than with the mines. Basing the entire yield of a lode on a few assays from rich specimens of ore from a "chimney" was found to be fallacious; and experience taught the lesson that a good solid ledge of average ore was far more valuable than the mere rich pocket mine bright with specimens. It was found, too, that because a mine was a gold mine it did not follow that all sorts of extravagant expenditures could be indulged in; that its operations must be conducted on a business basis and economy be practiced in all departments, the same as in a manufacturing or other enterprise. These things are true of other States as well as California, and are here mentioned simply that the changes and advances may be noted which have gradually led to the present condition of the quartz-mining industry in California.

It may be confidently stated that the quartz industry of the State is in a better condition to-day than it has been since its inception. The appliances for saving gold which have been perfected are applied intelligently and carefully, and every effort is made to gain a large percentage of the gold that is in the ores. The sulphurets are no longer allowed to go to waste, but all mills are now supplied with concentrators for saving this valuable product for subsequent treatment. Some of the larger mills have their own chlorination works for treating sulphurets, but those which have not find no difficulty in disposing of the concentrates to establishments which make a specialty of working them. The value of the sulphurets is usually subordinate to the value of the free gold in the ores, but in the total product form an important factor. The average value of the sulphurets saved in the State may be placed at from \$80 to \$90 per ton of concentrates, but it, of course, may take many tons of ore to yield a ton of these concentrated sulphurets. The percentage of sulphurets will vary from 1 to 5 per cent. of the ore milled. These sulphurets are iron pyrites principally.

What are termed low-grade ores, vary in value from \$3.50 to \$8 per ton in gold; and high-grade ores are those yielding from \$15 to \$30 per ton. The average value of the ore treated at present may be stated at \$10 to \$12 a ton. In the low-grade ores, the gold can seldom be seen with the naked eye, but the high-grade ore often shows particles of free gold. Mineralogically the ores worked consist generally of a quartz gangue, carrying free gold and iron pyrites. Quartz is the characteristic matrix of the veins, though other matrices occur.

The milling of gold ores in California has been greatly perfected of late years, and it is now possible to work ores profitably that 10 years since were practically worthless. This has come about by the adoption of more economical methods in both mine and mill, and greater care in the handling of the ore, as well as increased knowledge of the proper way to treat the ores in the mill. Improved appliances are also important factors. The present form of stamp-mill combines durability of construction with an automatic simplicity in the manipulation of the ores. The important object in the treatment is to secure the largest



yield consistent with the least waste of the precious metals by the adoption of the most rapid, simple, and economical method of reduction and amalgamation.

The choice of a mill-site is of paramount importance, since upon its judicious selection will depend in a great degree the cost of the milling of the ore. The accessibility of wood and water, attainable fall, and contour of the ground, and distance from the source of ore supply are the most important considerations. These desiderata are generally attainable in the districts of the State. The topography of the ground chosen is usually that which provides for an arrangement of substantial floors, one below another, to permit of an automatic fall or sliding of the ores and flow of pulp in the successive stages of treatment. Therefore the mills are, where possible, built on a side-hill.

Briefly the process of treatment may be described as follows: The ore from the mine is conveyed to a chute above the rock-breaker floor, where it is discharged upon a grizzly, which consists of an arrangement of iron bars, framed and inclined downward, and so set as to permit only the smaller and suitable-sized fragments to fall into the ore-feeder bin below, whilst the larger masses slide down over the grizzly to the rock-breaker, which crushes them to proper dimensions and discharges them into the ore-feeder bin and hopper. From here they are automatically fed as required to the battery stamps in the mortar, where they are pulverized, and quicksilver being introduced to the pulp, an amalgamation of the freed particles of gold is accomplished, and the resulting amalgam retained on the silver plates fitted within the mortar.

A suitable amount of water is introduced into the battery with the ore, and this, with the "swash" of the stamps, forces the ground pulp and amalgamated particles through fixed screens out of the mortar upon an inclined table or apron of such a width as to permit a thin stream of water and pulp over the silvered plates with which this apron is covered, where the stray amalgam and liberated particles of gold are caught. The remaining sands flow on concentrators, which, by their peculiar action, retain the heavy and metallic particles and discharge the lighter and worthless portion. Where water-power is abundant this waste, or "tailings," is sometimes again worked in arastras to catch anything which may have passed the appliances described. The concentrations caught in the concentrating machines are accumulated in proper receptacles and re-treated, either by further pulverization and amalgamation in grinding pans and settlers or by chlorination or other process, as the character of the chemical combinations may require.

Although some of the sulphurets obtained by the concentrators are treated at smelting works, most of them are treated in California by the Plattner chlorination process. This consists in roasting the concentrates in reverberatory furnaces to drive off the sulphur arsenic and other deleterious substances. Salt is added as the roast nears completion. The thoroughly roasted and moistened concentrates are charged



into impregnation-vats through which chlorine gas is passed. The chlorine gas in the nascent state attacks the gold, forming with it terchloride of gold. Then water is added to the vats, by which the terchloride of gold is leached out. The lixivium is run into precipitating tanks, where, by the addition of a solution of sulphate of iron, the gold is precipitated. The gold is collected upon filters, thoroughly washed, dried and melted. The chlorination gold averages from .999 to .999½ fine. If there is silver in the concentrates, as often happens, it is leached out and reduced to a metallie state.

A chlorination plant with a capacity of six tons in twenty-four hours costs from \$6,000 to \$7,000, and it will cost such a plant about \$10 a ton to treat the concentrates. From 90 to 92 per cent. of the gold value of the concentrates is recovered. At all important mining points in the State, there are now custom chlorination works, which charge about \$20 per ton for treatment and guaranty about the above-mentioned percentage of returns.

Machinery for concentrating the sulphurets has attained considerable perfection of late years, and there are many forms on the market. The most popular and generally used are those forms which employ an endless rubber belt, near the head of which the pulp is fed. The belt is slightly inclined and is given a shaking motion, so as to keep the particles in agitation. The sulphurets settle on the belt, and, adhering to it, are carried over the head of the table and deposited in a tank or box beneath. The specifically lighter particles are carried downward and pass, as "tailings," to the blanket sluices outside the mill. These are the general features of this class of machines, which, however, vary in details of construction and operation, to some extent, and each kind has its advocates.

Many mills have from 100 to 200 feet of blanket sluices with a grade of from 1 inch to 1½ inches per foot, and the stuff after passing over the concentrators is led to and flows through these blanket sluices. The sands collected on the fibers of the blankets are usually ground in a pan used for that purpose, though essentially like those used in silver mills.

The introduction of rock-breakers and automatic ore feeders has greatly increased the effectiveness of stamp-mills, as compared with breaking rock and feeding the battery by hand. The use of the feeders is considered to have increased the capacity of the battery from 15 to 20 per cent., besides effecting a very considerable reduction in the wearing of screens, dies, shoes, etc. As to the duty of stamps, the number of tons crushed depends on several things, but chiefly upon the character of the ore. Hard ores, and those of a clayey nature, decrease the duty of the stamps. The average duty of the stamp in this State is approximately 2½ tons of ore in twenty-four hours. Within a short time a great improvement has been made in the matter of steel shoes and dies for quartz mills. Formerly, owing to their tendency to chip and cup, their introduction met with little success. In most mills

where transportation is an important element in the cost, steel shoes have replaced the iron ones formerly used. Recently chrome steel shoes and dies have been introduced, and have proved their superiority over most other kinds of steel used. In some mills steel shoes and iron dies are used. The iron dies wear more evenly with steel shoes than the steel dies do. The life of the steel is about two and one half to three times that of iron shoes and dies, and the cost about twice as great as those of iron.

In the matter of plates for the aprons of gold mills, silver-plated copper has almost everywhere superseded the ordinary amalgamated copper plates. They are more easily kept clean, and the coating of amalgam that forms is very effective. In fact there is a constant absorption of amalgam by the plates. At the Empire mill, Grass Valley, Nevada County, notwithstanding the fact that the plates were well cleaned every day, the "sweating" of the outside battery plates and the aprons from four batteries yielded \$19,000 worth of amalgam after one and a half years' run.

The loss of quicksilver per ton is variable. One ounce per 2 tons of ore (1 pound for 32 tons) is about the mean quicksilver loss for the mills of the State. The quicksilver loss occurs generally through its being "floured" and floated off with the water in extremely finely divided particles.

As to percentages saved and cost of milling gold ores, Mr. John Hays Hammond, M. E., an authority on this subject, says:

The average value of the ore worked is the value of the gold saved, plus the value of the sulphurets saved, plus the value of the tailings lost. From these factors is calculated the percentage of gold saved by the mill. This represents the efficiency of the process. Other things being equal this will vary with the character of the ore. Where the gold is very fine and where the sulphurets are of a brittle character the percentage saved will be less than in the treatment of more favorable ores. Most of the loss occurs in the loss of sulphurets; consequently ores carrying a large percentage of rich sulphurets may have comparatively rich tailings. There are few ores in mines in operation in California from which 80 per cent. and upwards of the assay value can not be extracted by skilled millmen with good mills. The majority of mills save at least 75 to 85 per cent. of the assay value of the ores. Careful investigation at the North Star and Empiro Mills, carried on for one and a half years, shows a saving of from 82 to 94 per cent. of the assay value. The usual percentage saved, according to reliable semi-monthly reports from these mills, is from 83 to 90 per cent. of the assay value of the ores. In these estimates, of course, no deduction is made for the loss of gold in the subsequent treatment of the sulphurets, usually unimportant in this connection.

*Mill labor per twenty-four hours.*

One man at rock breaker, at \$2.50 .....	\$2.50
Two amalgamators, at \$3.....	6.00
Three concentrators; one at \$3, and two at \$2.50 .....	8.00
Total.....	16.50

The rock-breaker man also attends to the blanket sluices, and is employed in other tasks about the mill. Where steam-power is employed in addition to the above force, two engineers and one man to pile the wood near the boilers, etc., are required,



Cost of milling per ton in forty-stamp gold mill (water power), capacity 80 tons per twenty-four hours:

Labor—

Mill labor.....	\$0.20½
Assaying, retorting, and superintendence .....	.02½
Total .....	0.23

Supplies—

Castings.....	\$0.07	to	\$0.10
Quicksilver.....	.01½	to	.04
Lubricants, screens, illuminants, machinists' time, incidentals....	.04	to	.08
Total .....	0.35½	to	0.45

To this must be added the cost of water power, which is very variable.

Where steam-power is used the above estimate should be increased about 10 cents per ton for labor. Repairs, lubricants, etc., incident to the use of steam-power plant, increase the cost about 1 cent per ton. An electric plant to illuminate the mill, the office, etc., costs about \$600. The cost of producing the light is but little beyond the cost of power to run the dynamo. Good illumination is very desirable about a mill.

The charge for assaying, retorting, and superintendence is based upon the salary of \$120 per month for a man to perform these duties, in addition to rendering other services, i. e., clerk, time-keeper, etc., about the mine. One-half of his time is charged to the cost of milling, while the other half is charged to the cost of mining. At some works the superintendent of the mine performs these duties.

Although the ordinary stamp-mill still continues to maintain its prestige for the reduction of ores in California, it is proper to state that within the past few years various forms of roller-mills and other forms of pulverizers have been largely put into use, especially on small mines where the owners were unwilling or unable to go to the expense of erecting stamp-mills. There are several types of the pulverizers, varying more or less in principle, but forming in themselves complete ready-built mills, simply needing a foundation to be ready for work. These cost much less than stamps and have been found very effective on certain classes of ores. In fact, their use is increasing gradually, as they are well adapted for prospecting mills and for mines owned by individuals or small companies. There are some persons who advocate their use in preference to the stamp, while others do not believe in anything but the stamp for crushing ore. However, numbers are made, sold, and put into use, and in certain instances their effectiveness can not be doubted. Probably the cheapest milling of ore ever accomplished in the world was effected by the use of one of these machines at the Spanish mine, Washington Township, Nevada County, Cal. The circumstances were exceptional, it is true, but the results show what may be accomplished under similar conditions.

At this mine, the vein averages 90 feet in width. The hanging wall is a soft slate, shaly, and not well defined. The foot wall is a hard slate and well defined. The true vein is on the foot wall and consists of solid quartz about 4 feet thick. It does not pay for working and is therefore left in place. The pay is found in the soft slate on the hang-



ing-wall side, which contains many veinlets and streaks of ferruginous quartz carrying gold. Where no quartz is to be found there is no pay. The slate on this, the west, side is talcose.

The main tunnel is in 1,200 feet. The vertical distance from the surface to the end of the main tunnel is 350 feet. One of the methods of extracting ore here is as follows: There is an excavation from the tunnel to the surface which has acquired the form of an open cut with sloping sides, too steep for a man to stand on; a Chinaman, armed with a churn drill, is lowered by a rope; he drills a hole which, when deep enough, is charged with about 5 pounds of powder and fired, causing a large quantity of the soft slate to slide to the bottom, whence it is taken out through the tunnel. The mine employs a foreman, two white men, and eight Chinamen, who extract about 4,000 tons of ore a month, enough to keep the mill at work. The wages paid are: White men, \$3 per day; foreman, \$3.50, and Chinamen, \$1.50 per day.

The ore obtained comes out of the tunnel in cars by gravity, the empty cars being hauled back by mules. The ore is passed through a Blake rock breaker and then ground in a Huntington roller mill, of which there are three of 5 feet diameter and one of 4 feet. These mills, which make fifty-eight revolutions per minute, are fed by Hendy automatic ore-feeders.

The following record of one month's run of the mine may be taken to indicate the low cost of working the ore, and to show also how very low grade an ore may be profitably treated when the conditions are all favorable:

#### MINE.—COST OF PRODUCTION.

[Run; 28 days' work produced 3,413 tons of ore.]

	Labor.	Supplies.	Total.
Extracting ore.....	\$703.50	\$113.41	\$816.91
Delivering ore to mill.....	160.20	17.95	171.15
Dead work.....	105.20	10.93	116.13
General expense.....	78.35	1.95	80.30
Total.....	1,047.25	144.24	1,191.49
Cost per ton.....	.304	.042	.346

#### MILL.—COST OF REDUCTION.

[Run: 24½ days reduced 3,443 tons of ore.]

Mill expenses.....	\$227.32	\$194.33	\$421.65
Water for power.....		161.70	161.70
Handling ore.....	154.50	5.35	159.85
General expense.....	78.40	1.95	80.35
Total.....	460.22	363.33	823.55
Cost per ton.....	.133	.106	.239
Bullion produced.....			3,138.55
Total expenses.....			2,015.04
Profit.....			1,123.51

It will be seen from this that the ore only yielded a trifle over 91 cents per ton, yet a profit of 32.6 cents per ton resulted. The percentage of profit was 35.8 of the total. This is the very lowest record of quartz working. The fact that any profit at all can be made on such low-grade ore is remarkable. In the previous month 2,796 tons of ore were worked, which yielded \$1.16 per ton. The profit was 56 cents per ton, or about 48 per cent. of the total. The profit that month on a yield of \$3,268.49 was \$1,572.91. The cost of mining was 37½ cents and of milling 23 cents per ton.

The combined mills in working the 3,443 tons of ore in one month crushed 140½ tons per day, at a cost of 23.9 cents per ton.

The cost of shoes and dies for this mill is 10 cents per pound at the mill and the consumption is at the rate of 4.1 cents per ton of ore worked. The cost of screens is 1.2 cents for each ton of ore. The loss of quicksilver is one-thirtieth of an ounce per ton of ore. Of the amalgam recovered 60 per cent. is obtained from the mills and 40 per cent. from the plates. The gold recovered in the mills is, of course, grain and the amalgam from this source retorts about 40 per cent. The gold from the plates is very fine, the amalgam yielding only 20 per cent. of its weight in gold in retorting. The value of the gold averages \$15.50 per ounce. Contrary to a prevailing impression, clay in the ore does not cause any trouble in the mills, for this ore contains a large proportion of clay matter; it also contains a considerable, though not large, proportion of hard quartz. They use 40 miners' inches of water at a pressure of 310 feet, and at a cost of 15 cents per inch. This means a cost of about \$6 per day for the water to drive the Pelton water-wheels to operate the mills.

This example is cited as the best record of any of these roller mills in California. Ordinarily they can not show so much capacity, although their operations appear to be very satisfactory to those using them, and, as stated before, the use of these crushing appliances is increasing, notwithstanding the prejudice with which they were at first received.

Amador and Nevada counties continue to be the most important as to number and yield of quartz mines in California. In the latter county the first California quartz mine was opened and the first quartz mill (1850) was built. Here are the most extensive ditches and largest reservoirs perhaps in the world. Originally intended for hydraulic mining purposes, since the suppression of that industry they are utilized for furnishing power to the quartz mills. The milling plants may be considered of the best types and the visitor desirous of examining into the best process of working gold ores may see it in its perfection at Grass Valley. He may also see the methods of gold mining at their best. The ores are for the most part of good grade and "free milling," carrying usually not more than 2 per cent. of sulphurets.

In view of these facts it will be of interest to give some details concerning a few of the representative mines and mills in these two coun-



ties as indicating the best practice in gold mining and milling in California at this time. These statements are derived from the last official report of the State mineralogist of California, having been obtained by skilled deputies after personal examination and investigation.

The Idaho mine, situated 1 mile south from the town of Grass Valley, has had a long and successful history, having produced a total of over \$8,000,000, nearly one-half of which has been disbursed to the shareholders in dividends, the payment of which, commencing in 1869, has since been intermitted for a period of only five months.

The total depth of the incline is 2,696 feet, vertical depth 1,790 feet. The average width of the vein in the lower workings—length of ore shoot 1,200 feet—is given at 30 inches. Last year they crushed 26,686 tons of rock. The water raised daily by the Cornish plunger pumps amounts to 21,600 cubic feet. The mine employs 173 men and the mill 17, while 16 are occupied on outside work. The wages paid are \$3 a day for men in the mine and mill, and from \$3 to \$5 on outside work. Mining and milling per ton of ore cost \$8.44. The screens have been changed from No. 5 slot to No. 6 slot. The mill, of 35 stamps, uses 30 miner's inches of water (6-inch pressure), and 320 miner's inches are required under a pressure of 542 feet to drive the Pelton wheels, of which there are three of 8-foot diameter, four of 6-foot, one of 5-foot, one of 3-foot, two of 18-inch, and one of 9-inch.

The pitch of the vein is southerly from 73 degrees to 55 degrees, the course being nearly east and west. The pay shoot pitches easterly at an angle of about 40 degrees.

The tailings from the mill are retreated by being passed, with additional clean water, through shallow sluices or strakes, lined with canvas, to which the *fine* sulphurets cling and are washed off periodically by means of a jet from a hose and nozzle, and, being afterwards collected, they are further cleansed by a repetition of the process. The resulting concentrated material is worth \$30 per ton and upward.

Below, on the creek, the tailings from these works are taken up by others, who pass them through sizing boxes, and again over strakes lined with gunny sacks, which are periodically lifted and washed in tanks. The coarse sulphurets lost above, being thus recovered, are mixed with sand and treated by grinding and amalgamation in eight Knox pans, driven by a small overshot wheel. In these pans, besides quicksilver, nitrate of mercury and sometimes bluestone are used, the operators being of the opinion that they get nearly all of the gold. The eight pans work  $1\frac{1}{2}$  tons of the stuff in twenty-four hours. A part of the gold obtained by this latter process comes, no doubt, from the coarse sand, in the grains of which it is inclosed. The nitrate of mercury probably acts by precipitating a film of mercury upon the iron surface of the pan and upon each particle of iron ground off from the shoes and dies. The mercury *in statu nascendi* probably tends, without extra energy, to attach itself to the liberated particles of gold. The blue-



stone, in all probability, assists in the formation of an amalgamated film on the iron, by coating it with copper; but as it is used only occasionally, and for the purpose of preventing a large loss of mercury, under certain conditions, its principal use seems to be to dissolve such particles of iron as have become amalgamated through the action of nitrate of mercury, and thus produce a powdery sort of amalgam, which, when the iron is replaced by copper from the bluestone, is converted into a soft, coherent amalgam, easily saved in the washing.

The Idaho Mill is provided with an extensive system of strakes, over which the tailings are first passed after leaving the mill, where they have already flowed over the blankets, so that all the ore is subjected to no less than four concentrations. But after all these tailings are probably not much poorer than they would be if treated in the modern way by amalgamation in the battery and on plates and concentrated on Frue or Triumph vanners.

Altitude of mine.....	2,450 feet
Present vertical depth reached.....	1,790 feet
Present depth reached on incline.....	2,696 feet
Length of ore shoot.....	1,200 feet
Quantity of water raised in twenty-four hours.....	21,600 cubic feet
Cost of powder and fuse.....	\$8,687.68
Cost of steel for drills.....	\$605.52
Cost of mining and milling.....	\$8.44 per ton
Quantity of ore crushed.....	26,686 tons
Number of stamps.....	35
Weight of stamps.....	850 pounds
Drop of stamp.....	9.5 inches
Drops of stamp.....	72 per minute
Kind of screen.....	No. 6 slot
Concentrators.....	Blankets; Cornish buddle
Water used in battery.....	30 miner's inches
Water used for power.....	320 miner's inches
Fall of water for power.....	542 feet
Kind of wheels used for power.....	Pelton

The Original Empire Gold Quartz mine was located in 1850, and is 1 mile southeast of the city of Grass Valley, Nevada County, at an altitude of 2,800 feet. The property has a length of 5,000 feet and a breadth of 750 feet, being a consolidation of several claims.

There are several veins with a northwest and southeast course, and a westerly dip of about 30 degrees. The length of the ore shoots varies from 650 feet in the Rich Hill ledge to 1,800 feet in the Ophir ledge.

The mine is opened by two inclined shafts to a depth of 1,700 feet on the incline, or 750 feet vertically. The foot-wall vein is in diabase, the hanging-wall vein is in diorite and diabase. About 18,000 gallons of water are raised per hour by a Cornish plunger pump. A compressor and a National drill, together with giant powder, are used in drifting and sinking. The cost of drifting is from \$3.50 to \$6 per foot; of sinking, \$25 to \$35 per foot, and of mining, dead work, etc., included, is \$5 per ton. The distance from the mine to the timber is from 2 to 5 miles.

The ore is a quartz gangue, carrying free gold and auriferous sulphurets, and is treated by wet stamping, amalgamation, and concentration, in a mill of 40 stamps, each stamp weighing 850 pounds, dropping 7 inches ninety times per minute, and crushing 2 tons of ore in each twenty-four hours through brass-wire screens of 30 meshes to the linear inch, and 48 by 12 inches clear surface. The screens are inclined.

The battery shoes and dies are of chrome steel, costing 9 cents per pound. Each battery has a length of 25 feet of silvered plates, 16 inches wide, inclining from  $1\frac{1}{4}$  to  $1\frac{3}{4}$  inches per foot; also inside plates 48 inches long by 5 inches wide. Of the gold saved, from 75 to 85 per cent. is found in the mortars, and 1 ounce of quicksilver is lost for each ton of ore worked. The tailings are passed over sixteen Triumph concentrators, each of which requires from 1 to  $1\frac{1}{2}$  gallons of feed-water per minute (in addition to that from the batteries). The concentrates amount to  $2\frac{1}{2}$  per cent. of the weight of ore crushed, and consist of iron pyrites with a little galena, having an assay value of \$120 to \$200 per ton. They are disposed of by sale to the highest bidder.

The mill, hoisting works, etc., are driven by water, conveyed a distance of 1,300 feet from the company's reservoir, in a 22-inch pipe. The mill uses 80 miner's inches of water under a pressure of 440 feet. The pump, compressor, and hoisting works use 150 miner's inches under 422 feet. The water is measured under 6-inch pressure and costs 14 cents per inch per twenty-four hours. The mill employs 7 men, the mine from 120 to 160, and 8 are occupied on outside work.

Altitude of mine above sea level.....	2,800 feet.
Length of ore shoots.....	650 to 1,800 feet.
Length of ore shaft on incline.....	1,700 feet.
Vertical depth reached.....	750 feet.
Quantity of water raised per hour.....	18,000 gallons.
Character of walls.....	Hanging, diorite; foot, diabase.
Kind of compressor used.....	Risdon Iron Works.
Kind of drill used.....	National.
Kind of powder used.....	Giant.
Cost per foot of shaft.....	\$25 to \$35
Cost of mining per ton, including dead work, etc.....	\$5
Number of stamps.....	40
Weight of stamp, each.....	850 pounds.
Drop of stamps.....	7 inches.
Drop of each stamp per minute.....	90
Duty of each stamp in twenty-four hours.....	2 tons.
Kind of shoes and dies.....	Chrome steel.
Cost of shoes and dies, about.....	9 cents per pound.
Width of amalgamated plates.....	16 inches.
Length of amalgamated plates to each battery.....	25 feet.
Size of inside battery plates.....	5 by 48 inches.
Kind and grade of screens.....	Brass wire, 30-mesh.
Discharge surface of screens.....	12 by 48 inches.
Recovery of gold, percentage saved in mortars.....	75 to 85
Recovery of gold, percentage saved on plates.....	15 to 25
Kind of rock breaker.....	Blake.



Number of rock breakers.....	3
Kind of feeders.....	Challenge.
Number of feeders.....	8
Kind of concentrators.....	Triumph.
Number of concentrators.....	16
Concentrators—water fed to each per minute.....	1 to 1½ gallons.
Percentage of sulphurets.....	2½
Description of sulphurets.....	Pyrites, galena.
Value of sulphurets.....	\$120 to \$200 per ton.
Loss of quicksilver per ton of ore.....	1 pound.
Water used for power in mill.....	80 miner's inches.
Pressure of water used for power in mill.....	422 feet
Water used for power in hoisting works.....	} ..150 miner's inches; pressure of 440 feet.
Water used for power in compressor ....	
Water used for power in pump.....	
Cost of water per miner's inch, under six inches pressure.....	14 cents.
Number of men employed in mill.....	7
Number of men employed in mine.....	120 to 160
Number of men employed outside.....	8
Wages paid per day in mine.....	\$3
Wages paid amalgamators per month.....	\$90
Wages paid concentrators per shift.....	\$2.50 to \$3
Wages paid rock-breakers per shift.....	\$2.50

The North Star gold quartz mine is situated 2 miles south of Grass Valley, Nevada County. The dimensions of the claim are 3,200 by 800 feet. The course of the vein is east and west, with a northerly dip of 26 degrees, and an average width of 2 feet. The aggregate length of ore shoots is 2,000 feet, and the mine is worked by an inclined shaft of 1,700 feet to a vertical depth of 550 feet. The walls are diabase. Water to the amount of 15,000 gallons per hour is raised by a Cornish plunger pump. Sinking costs \$20 per foot, and ore, including dead work, is extracted at an expense of \$5 per ton. The work is carried on by the aid of a Risdon Iron Works compressor, National drill, and Giant powder.

The ore is quartz, with free gold, pyrites, and a little galena, and is treated by wet crushing, amalgamation, and concentration. The mill has 30 stamps, with 19 additional being erected, each of which weighs 850 pounds, drops 7 inches at the rate of from eighty-five to ninety times per minute, and crushes 2 tons of ore in twenty-four hours. The shoes and dies are of chrome steel, costing about 9 cents per pound. The quantity of water used for the stamps is 7 inches for six batteries. The screens are of 30-mesh brass wire gauze, with a surface of 12 by 48 inches clear, and are inclined. The aprons are silvered, and are 4 feet wide by 6 feet long. The sluice plates (silvered) are 4 feet wide and 20 feet long, and have an inclination of from 1¼ to 1½ inches per foot; the inside plates are 5 by 48 inches. Challenge feeders are used, one to each battery of 5 stamps, or 6 in all. The sulphurets, with an assay value of from \$65 to \$100 per ton, consisting of iron pyrites chiefly, and amounting to 3½ per cent. of the ore, are saved by Triumph



concentrators and sold. The mill, compressor, hoisting works, and pump are driven by 312 miner's inches of water, under from 232 to 282 feet fall, costing 14 cents per inch, measured under 6-inch pressure.

Altitude above sea level.....	2,400 feet.
Length of ore shoot.....	2,000 feet.
Length of ore shaft on incline.....	1,700 feet.
Vertical depth reached.....	550 feet.
Quantity of water raised per hour.....	17,000 gallons.
Character of walls.....	Both diabase.
Kind of compressors used.....	Ridson Iron Works.
Kind of drill used.....	National.
Kind of powder used.....	Giant.
Cost of shaft.....	\$20 per foot.
Cost of mining, including dead work, etc.....	\$5 per ton.
Number of stamps.....	30.
Weight of stamps.....	850 pounds each.
Drop of stamps.....	7 inches, drop of each stamp 85 to 90 per minute.
Duty of each stamp.....	2 tons in twenty-four hours.
Kind of shoes and dies.....	Chrome steel.
Cost of shoes and dies.....	About 9 cents a pound.
Dimensions of aprons (silvered).....	4 by 6 feet.
Dimensions of sluice-plates.....	4 by 20 feet.
Inclination of sluice plates per foot.....	1½ to 1¾ inches.
Size of inside plates.....	5 by 48 inches.
Kind and grade of screens.....	30-mesh, brass wire.
Discharge surface of screens.....	12 by 48 inches.
Recovery of gold in mortars.....	80 per cent.
Recovery of gold on plates.....	20 per cent.
Kind of feeders.....	Challenge.
Number of feeders.....	6
Kind of concentrators.....	Triumph.
Concentrators in use.....	16
Sulphurets.....	20 per cent.
Description of sulphurets.....	Iron pyrite.
Value of sulphurets.....	\$65 to \$100 per ton.
Water used for power.....	312 miner's inches.
Fall of water used for power.....	232 to 282 feet.
Cost of water per miner's inch, under six-inch pressure.....	14 cents.
Number of men employed in mine.....	150 to 170
Number of men employed in mill.....	6
Number of men employed on outside work.....	8

In Amador County, along the broad gold-bearing belt known as the "Mother Lode" of California, which holds its course across the county, are the principal mines and mills, there being here within a distance of 15 miles as many as twenty large companies engaged in vein mining, the properties of nearly all being equipped with first-class plants. Two properties may be considered here as types:

The Keystone Consolidated Mining Company's property is situated in Amador mining district, in the town of Amador. The ores have been mined and milled constantly for twenty-five years, and irregularly for ten years and over. The course of the vein, or, more properly speaking, the course of the three parallel veins, is slightly west of north and east

of south. The dip is a little north of east; the company mines over a space of 400 feet in width, in which the parallel veins occur, varying in thickness from stringers to 60 feet in width. In dip from 45 to 60 degrees from the horizon.

The property is equipped with two shafts; the depth of the main shaft is 1,305 feet on the incline, and reaching a vertical depth in the mine of 1,000 feet; the south shaft is used as an air and water shaft, and reaches 1,024 feet in depth on the incline, or 780 feet perpendicular. The hanging-wall is diorite; the foot-wall has not been reached. The mine does not make a great deal of water, more, however, in winter than in summer, and is handled by a bucket in one shaft and by Cornish pumps in the other, three with 10-inch cylinders, and one with 6-inch cylinder; there is a 9-inch column for the 10-inch pumps, and a 6-inch column to the 6-inch pump.

Giant powder, Nos. 1, 2, and 3, is used in the mine, principally No. 2; 1,700 pounds are consumed monthly.

The Patton, or main shaft, started in slate near the surface, passed into diorite, and continued in this formation to the bottom. The south shaft was sunk entirely in slate. Both shafts are timbered throughout. Sawed lumber costs at the mine \$22.50 per thousand, and 5 and 6 foot lagging from \$80 to \$90 per thousand.

The mine is about 20 miles from timber. The mine and the mill are in close proximity. The character of the ore is quartz, soft and easily crushed, free milling, with about  $1\frac{1}{2}$  per cent. of sulphurets. The ore is crushed, pulverized under stamps, amalgamated in the battery and on outside plates, and the sulphurets are saved in the old style, Hendy pan concentrators, in riffle sluices, and on canvas. When running on rich ore, the coarse sulphurets, which are caught in the sluices, assay \$135 per ton. From the same ore, concentrations from a Hendy assay \$110 per ton. Fine sulphurets, caught on blankets, assay \$44 per ton.

In the first five months in 1888, before striking the rich ore on the lower level—

The sulphurets caught in Hendy pan concentrators assayed .....	per ton.	\$96.33
The sulphurets caught in riffle sluices assayed .....	do...	71.52
The sulphurets caught on canvas assayed .....	do...	44.00
The upper tailings as they leave the mill assay .....	do...	.70
The lower tailings below the sluices assay .....	do...	.50

The company's forty-stamp mill is arranged for either water or steam power. A Knight's 6-foot water-wheel is used under 254 feet of pressure. A steam-engine, with a cylinder 18 inches in diameter and 4-foot stroke, connected with two 54-inch boilers 16 feet long, is called into operation in case of failure of water supply. The boilers are supplied with a Freedman's injector and Knowles' steam pump, No. 5. At the hoisting works there is a Blake's crusher, 9 by 15 inches, and the ore goes broken to the mill.

For one year, with No. 6 and 7 straight slot screens, 3,000 tons of ore per month were crushed. The order of drop in the Keystone mill is



one, two, three, five, four—one and two having a half inch more drop than the other stamps. In the next battery the order is reversed, so on throughout the mill. The inside copper plates are changed from one battery to another, to insure a more even coating of amalgam on the plates with this drop. Shoes and dies are iron and cost 4 cents per pound. Weight of stamp: Stem, 310 pounds; tappet, 85 pounds; bosses, 215 pounds; shoes, 128 pounds; keys, 12 pounds; total, 750 pounds. Wear of shoes and dies per ton: Forty shoes, 5,120 pounds; forty dies, 4,360 pounds; total, 9,480 pounds, will crush 3,000 tons of Keystone ore. Nine thousand four hundred and eighty pounds at 4 cents, \$379.20; less one-fourth weight returned, 2,370 pounds at 2 cents, \$47.40; 3,000 tons ore used up \$331.80 in shoes and dies, or at the rate of \$0.116 per ton. Running with a low feed, the Keystone drop wears iron faster than it is worn with other drops, but it is believed also to crush ore faster. The company tried chrome steel; but a set of shoes and dies lasting only sixty days, they were found not to be as economical as iron, where 2 cents per pound are returned for old iron. The screens used are straight slot, No. 8, slightly inclined from the perpendicular. The plates on the aprons are 48 inches by 13 inches. The width of the sluices, of which there are two to each five stamps, is 14 inches and the length 9 feet. The plate inside of the battery is 48 inches in length. An end section of the block to which this plate is fastened varies from 0 to 2 inches on the perpendicular side, on the upper side from 50 to 85 degrees from the horizontal. The plates used are copper and have on the apron an inclination of three-quarters of an inch to 1 foot, and in sluices an inclination of  $1\frac{1}{2}$  inches to 1 foot. The percentage of free gold saved in the battery is about 75 per cent., and on the outside plates 25 per cent.

Loss of quicksilver per ton of ore worked: One year 1,276 troy ounces were lost monthly in mill, and 10 ounces in retorting, 1,286 ounces; one year 861 troy ounces were lost monthly in mill, and 10 ounces in retorting, 871 ounces; or an average of 1,078.5 troy ounces per month for two years. Allowing 14.58 troy ounces for 1 pound avoirdupois, 73.97 pounds avoirdupois monthly, at 70 cents, amounts to \$51.78. Assuming 3,000 tons of ore to have been worked, the quicksilver cost per ton of ore worked would be 1.7 cents. The percentage of sulphurets is  $1\frac{1}{2}$ , principally iron pyrites, with a little arsenical and antimonial sulphurets; they contain from \$80 to \$175 per ton. Before striking rich ore last summer the sulphurets for the first part of the year were running \$90 to \$95 for the fine and \$80 to \$90 for the coarse, the alloy of gold in the sulphurets containing about 83 per cent. gold and 17 per cent. silver by weight. They are saved in Hندی pans, sluices, and on canvas, and sold to the Amador Reduction Works. The charge for treating per ton is \$20; for hauling, \$1; the percentage of assay value received is 92. One thousand five hundred cords of wood are used per year, at \$6 per cord for pine or oak. Both hoisting



works are run by steam-power. The mill requires 125 miners' inches of water; in all 180 inches are used at the mine and mill, at a cost of \$800 per month. Two large 60-inch and two small 18-inch circular saws are in use at the mine for cutting timber, etc.; also Lepley's machine for framing, and a lathe, screw-cutting frame, and the modern appliances. The engine at the Patton shaft has a 12-inch cylinder. The engine at the south shaft is an upright—16-inch cylinder and 4-foot stroke. The developments on the mine are the Patton shaft, 1,305 feet, and the south shaft, 1,124 feet, measured on the incline, and extensive exploration of the three parallel veins.

Stations in the hanging wall at each level have a vertical depth of 620, 720, 820, and 1,000 feet. During the past year a drift was run south on the 1,000-foot level, 767 feet south from the Patton shaft. It is proposed to sink 300 feet and open up levels at greater depths. Milling costs, per ton: Shoes and dies, 12 cents; labor, 27 cents; water, 19 cents; screens, 1 cent; quicksilver, 2 cents; other incidentals, 14 cents; total, 75 cents.

Altitude (aneroid reading).....	1,000 feet.
Length of ore shoot .....	800 feet.
Length of ore shaft on incline.....	1,305 feet.
Depth of ore shaft vertically.....	1,000 feet.
Vertical depth reached in mine.....	1,000 feet.
Vertical depth of water shaft.....	780 feet.
Quantity of water raised in twenty-four hours.....	25,000 gallons.
Character of hanging-wall.....	Diorite.
Character of foot-wall.....	Slate.
Kind of powder used.....	Giant, Nos. 1, 2, and 3.
Quantity of powder used.....	1,700 pounds.
Cost of mining per ton.....	\$4.
Number of feet timbered .....	Timbered throughout.
Kind of timber.....	Pine and spruce.
Cost of timber.....	According to size, 75 cents to \$11, spruce.
Character of ore.....	Free milling, with $1\frac{1}{2}$ per cent. sulphurets.
Character of works.....	Free milling gold mill, with concentrating pans and sluices.
Number of stamps.....	40.
Weight of stamps.....	750 pounds.
Drop of stamps.....	6 inches.
Drops per minute.....	92 to 93.
Duty of stamp.....	$2\frac{1}{2}$ tons in twenty-four hours.
Kind of shoes and dies.....	Iron.
Size and character of screens.....	Straight slot, No. 8.
Dimensions of apron.....	48 inches by 15 inches.
Width of sluice (double) .....	14 inches.
Length of sluice (each).....	9 feet.
Kind of feeder.....	Templeton.
Kind of concentrators.....	Hendy pans.
Number of concentrators .....	28
Percentage of gold saved in battery.....	75
Percentage of gold saved on plates.....	25
Percentage of sulphurets.....	$1\frac{1}{2}$
Value of sulphurets per ton.....	\$80 to \$175.
Cost of milling per ton.....	75 cents.

Cost per ton of working sulphurets.....	\$20
Percentage of value extracted from sulphurets.....	92
Number of men in mill .....	9
Number of men in mine.....	25 first hands, 54 second hands.
Number of men, outside work.....	21
Total number employed.....	109
Average wages in mine per day.....	First hands, \$3; second hands, \$2.50
Average wages in mill per day.....	\$3
Average wages paid outside work per day.....	\$2.50
Cords of wood used per day.....	4½
Cost of wood per cord.....	\$6
Quantity of water used in milling.....	125 miners' inches.
Head of water used for power.....	266 feet.
Fall of water used for power.....	200 miners' inches.
Cost of water for milling and for power—Nominally use 200 inches of water and pay \$800 per month, mine and mill.	

The Kennedy mine is situated about 1 mile north of Jackson, the county seat of Amador county, on the main stage road to Ione, at an altitude of about 1,470 feet above sea level. The several properties which form the Kennedy mine were located in 1860 and patented in July, 1872. The amount of acreage in the mining patent is 27.85 and embraces 2,060 feet in length on the mother lode, and a width of about 500 feet. In addition the company owns a patented mill-site of 5 acres. The general course of the vein is about north 20 degrees west, and the dip north 70 degrees east, at an angle with the horizon varying from 45 to 55 degrees for about 400 feet, and thence to the bottom the angle is about 60 degrees from horizontal. The width of the vein is from 2 to 40 feet. There are three shoots on the mine—south chimney, in its greatest length, is 490 feet, with intervening spots of barren material, the middle one about 200 feet, but the length of the north chimney, the existence of which has been known since an early date, has not been determined.

There are two shafts on the property and one tunnel, which are still being driven. The main shaft is about 5 by 12 feet in the clear, with two compartments and a pump and a ladder way, timbered throughout with sawed spruce, 16 and 20 inches square, and has attained a depth of 1,125 feet.

The north shaft is timbered with 16-inch square spruce, and is also a double compartment, and from the 400 level down is 5 by 12 feet in the clear. It has reached a depth on an incline (averaging about 70 degrees) of 670 feet. The tunnel now being driven to reach the north chimney is about 250 feet in, and 100 feet below the surface. The main shaft, on reaching a vertical depth of 400 feet, encountered vein matter which it followed at an angle of about 60 degrees until it reached its present depth, corresponding to a vertical depth of 1,025 feet from the surface. The north shaft has reached a vertical depth of 625 feet. The hanging-wall of the vein is diorite (greenstone), the foot-wall slate. The mine yields about 60,000 gallons of water daily. No pump is used. The water is removed with self-filling, self-emptying water barrels, hold-



ing 500 gallons each. About 800 pounds of giant powder, No. 2, are consumed monthly. Of steel, for drills, it is estimated that about 400 pounds are required. For the last two years the present owners have been developing the mine, sinking shafts, running tunnels, etc., and the mining cost per ton has not been segregated from other work, but \$3 per ton may be given as a pretty close estimate.

The labor cost of running the tunnel was \$3 per foot; of sinking the shafts (excavation 9 by 15 feet, formation hard slate) is \$15 and \$20 by contract, and the number of feet sunk per day from 1 to  $1\frac{1}{2}$ . Sawed spruce or pine costs \$20 per thousand. There is no cost for transportation of ore, as the mine and mill are together. The ore, the ordinary mother lode rock, quartz, and slate, free milling, with small percentage of sulphurets, is subjected to the ordinary process of crushing, pulverizing in the battery, amalgamating in the battery and on outside plates, and concentrating on Frue vanners. The sulphurets are sold to the Amador Reduction Works. The mill contains 40 stamps, weighing 850 pounds each; the usual drop is started at  $6\frac{1}{2}$  inches for soft rock, and 7 for hard, and 88 drops are given per minute. The duty per stamp is  $2\frac{1}{6}$  to  $2\frac{1}{4}$  tons in twenty-four hours, when running with a discharge 9 inches above the die, and using Nos. 20, 24, and 30 brass wire screen.

White iron is used for shoes and dies, and costs 4 cents per pound. In regard to wear it varies according to the iron, when the rock and the drop of the stamp are the same—one set of dies lasting thirty days, another thirty-five days. Eight thousand eight hundred pounds of shoes and dies crush 2,700 tons in one case, and 3,150 tons of similar ore in another case, with the same drop. The wear in one case amounted to 3.26 pounds of iron to a ton of ore, and in the other case 2.8 pounds. Eight thousand eight hundred pounds of iron, at 4 cents, \$352; 2,200 pounds of old iron returned, at 2 cents, \$44; net cost of iron \$308 in one case for crushing 2,700 tons, and in the other for 3,150 tons. In one case the cost of shoes and dies was 11.4 cents per ton of ore; in the other the cost was 9.77 cents per ton of ore.

The quantity of water used in the battery and on concentrators is about 12 inches. The screens are brass wire set vertically. The dimensions inside of the screen frame are 4 inches by 44 inches. Experiments are being made with Nos. 24 and 30 mesh. The apron is 46 inches by 30 inches. The width of the sluice is 15 inches, and 18 feet in length. A double sluice is used to each 5-stamp battery for 10 feet beyond the apron. The size of the plate inside the battery is 6 by 44 inches. Silvered plates are used outside the battery, and the inclination to the foot is 1.87 inches. Hendy's Challenge feeders are used. The percentage of recovery in the battery varies from 33 to 66 per cent., and on the outside plates from 66 to 33 per cent. The ore contains  $1\frac{1}{2}$  per cent. of sulphurets, of an assay value of \$125 per ton. About one-sixth of the value of the ore is in the sulphurets. The loss of quick-silver is about  $1\frac{1}{2}$  cents per ton. Sixteen Frue vanners are used for concentrating. The sulphurets are sold to the Amador Reduction



Works, at Sutter Creek, and the percentage of value allowed is 92 per cent. of the assay. Steam is only used in case of an accident to the ditch or water-power, and then only at the hoisting works. The wood used costs \$5 per cord. It requires an average of 5 cords of wood per day, when running the hoisting works by steam, to hoist 60,000 gallons of water and 100 tons of ore from the mine. The water is hoisted from the 400, 600, and 900 levels, and from the sump, which is 1,125 feet deep.

It is proposed to put in power saws for framing timbers and making wedges; to sink both north and south shafts to 1,150 feet, and connect and run each way; to open up the third, or north chimney, existing on the surface.

The cost of milling at the Kennedy: Water, per ton, 22½ cents; quick-silver, per ton, 1½ cents; shoes and dies, per ton, 10 cents; labor, per ton, 20 cents; incidentals, 15 cents; total, 69 cents.

The company pays for water, 15 cents per miners' inch, under special contract, as the water is turned into the ditch to be used again by the Zeile and other mines on the lode, further south. The daily cost of water for all purposes is \$36.75.

Weight of stamps.....	850 pounds.
Drop of stamps.....	6½ to 7 inches.
Drops.....	88 per minute.
Duty of stamp.....	2½ to 2¼ tons in twenty-four hours.
Kind of shoes and dies.....	White iron.
Size and character of screens.....	Brass wire, 20, 24, and 30
Water used in battery.....	12 inches.
Dimensions of apron.....	46 by 30 inches.
Width of sluice.....	15 inches.
Length of sluice.....	18 feet.
Kind of feeder.....	Hendy Challenge.
Kind of concentrators.....	Frue's
Percentage of gold saved in battery.....	33 to 66
Percentage of gold saved on plates.....	66 to 33
Percentage of sulphurets.....	1½
Value of sulphurets.....	\$125 per ton.
Cost of milling.....	69 cents per ton.
Cost of working sulphurets.....	\$20 per ton.
Percentage of value extracted from sulphurets.....	92
Number of men in mill.....	6
Number of men in mine.....	60
Number of men on outside work.....	15
Total number employed.....	81
Average wages in mine.....	\$2.70 per day.
Average wages in mill.....	\$3 per day.
Average wages paid outside work.....	\$2.50 to \$4 per day.
Cords of wood used.....	When used, 4 cords per day.
Cost of wood.....	\$5 per cord.
Quantity of water used in milling.....	135 inches per day, \$20.25
Head of water used for power.....	165 feet, 181 feet, and 235 feet.
Fall of water used for power.....	110 inches.
Cost of water for milling.....	15 cents per inch, \$20.25
Cost of water for power.....	\$16.50

It would be impossible, in the scope of this article, to enumerate by name the various quartz mines of the State, much less go into the details of their operation, so that a few types only have been selected. As to the extent of the quartz industry, however, some idea may be given from the appended list of quartz mills, from the same authority, as this list will show the relative importance of the different counties of the State. It should be borne in mind that the larger portion of the mills enumerated are only run during the water season, and some are "custom mills" which run whenever supplied with ore. As most of the California mills are run by water-power it will be understood that unless other power is mentioned, water is employed.

*Amador County.*—Plymouth Consolidated Mining Company, two mills, 80 stamps each; Loyal Lead, 10 stamps; Gover, 20; Bunker Hill (water or steam power), 40; Keystone (water or steam), 40; South Spring Hill, 30; Lincoln, 40; Mahoney, 40; Sutter Creek, 10; Wildman, 10; Oneida, 10; Live Oak, 2; Kennedy, 40; Zeile (water or steam), 40; Moore, 10; Amador Gold, 60; Amador Queen, 20; Nevills, 10.

*Calaveras County.*—Utica mine, 60; Stickles, 20; Suffolk, 5; McCreight, 10; Sheep Ranch (steam), 30; Esmeralda (steam), 10; Ilex (steam and water), 40; Russell Reduction and Mining Company (steam and water), 5; Blazing Star and Water Lily (steam), 3; the Maltman Reduction Works (run by steam), have also one Tustin pulverizer; the Russell Reduction Company, one Dodge ore pulverizer; Angels mine, three Low pulverizers; Quaker Hill, one 6-foot Huntington mill; Buena Vista (steam), one Kendall rocker mill.

*El Dorado County.*—Josephine mine, 20 stamps; Alpine, 10; T. Taylor, 10; Vandalia (steam), 5; Big Canyon, 20; Gopher and Boulder, 20; Melton, 15; Oregon, 10; Pacific, 20; Superior (steam), 10; Church, 10; Chili Ravine, 10; Linden Gravel, 10; Rogers Gravel, 10; Zentgraft, 10; the Shaw has a 5-foot Huntington pulverizer and the Mathines Creek a 5-foot mill of the same pattern.

*Colusa County.*—Manzanita gold mine, steam mill, 10 stamps.

*Fresno County.*—Abbey (steam), 10 stamps; Hanover (steam), 5; Providence (steam), Dodge pulverizing mill; Confidence, 5; Last Chance (steam), 10; Josephine (steam), 20; Samson (steam), Kendall mill.

*Los Angeles County.*—O'Reilly mine (steam), 5 stamps.

*Lassen County.*—Evening Star, 10 stamps; Golden Eagle, 5 stamps.

*Mariposa County.*—Hite, 40 stamps; Cranberry (two arrastras); Hathaway-Bondurant (steam), 10; Red Cloud (steam), 22 stamps.

*Monterey County.*—Last-Chance mill (steam), 3 stamps.

*Mono County.*—Standard Consolidated (steam), 15 stamps; Monte Cristo (steam), two Huntington mills.

*Nevada County.*—Rodgers, 10 stamps; Larimer, 10; Champion, 1 Huntington mill; Spanish, 4 Huntington mills; Delhi, 18 stamps; Idaho, 35; Gaston Ridge (steam), 10; Yuba, 15; Rocky Glen, 10; Blue



Bell, 10; Washington, 20; Brunswick (steam), 20; North Banner, 5; Champion, 10; Nevada, 10; Omaha Consolidated, 10; Crown Point, 10; Orleans (steam), 8; Mayflower, 4; Excelsior (steam), 10; North Star, 30; Empire, 40 stamps.

*Napa County*.—Palisade Silver Mill (steam), 10 stamps.

*Plumas County*.—Crescent, 16 stamps; Plumas Consolidated, 24; Kettle Mill, 20; Green Mountain, 60; Plumas-Eureka, 60.

*Placer County*.—Shipley, 10 stamps; New Mill, 5; Kidd & Johnston, 5; Dorer, 10; St. Patrick, 15; Jamison (arrastra); Bells a Kendall rocker mill; Dardanelles 5; Breece & Wheeler (steam), 10; Live Oak, 5; Morning Star (steam), 10; Buttes, 5 stamps.

*Santa Cruz County*.—Stribling Mill (steam), 5 stamps.

*Shasta County*.—Celestine, 5 stamps; Lost Confidence (steam), 20; Calumet, 24 stamps and 2 Paul dry pulverizers; Central, 2 Huntington pulverizers; Reilly & Bliss, 10 stamps; America, 5; Gem Consolidated (steam), 10; Majara (steam), 18; Uncle Sam, 10 (now 50).

*San Diego County*.—Ready Relief (steam), 10 stamps; Stonewall, 10 (increased to 30).

*Sierra County*.—Young America, 40 stamps; Sierra Buttes, 80; Gold Bluff, 12; Rainbow, 10.

*San Bernardino County*.—Waterloo (new), 60 stamps, and Waterloo (old), 15 (both steam); Barbero (steam), 10; Hawley (steam), 10 stamps.

*Siskiyou County*.—Caribou, 2 stamps; Uncle Sam, 8; Mount Laurel, 16; Evening Star, 4; Black Bear (water and steam), 32; Methodist Creek, 1; The Cilta, 4; Scott Bar, 10; Hooper's Custom (steam), 5; Johnson's Oro Fino, 10; Schroder & Warner (steam), 5; Comstock No. 2 (steam), 5; Luna, 4; Daggett & Smith, 5; Warren & Green, 5.

*Trinity County*.—North Star, 5 stamps; Golden Chest, 5; Bullychoop (steam), 5; Brown Bear (steam), 15; Bartred (steam), 10.

*Tuolumne County*.—Patterson, 20 stamps; Madrid, 5; Experimental Gulch, 10; App, 5; Heslep, 25; Gem, 10; Seeber, 15; Consolidated Eureka, 20; New Albany, 10; Black Oak (steam), 10; Buchanan (steam), 20; Kanaka, 5; Hidden Treasure (steam), Huntington Pulverizer; San Guiseppa (arrastra); Belcher Consolidated (steam), Kendall oscillating mill.

Idle or inactive mills are not included in this list. Additions are commonly made to the number of stamps as the mine development and output of ore demand.

One reason for the increased activity in quartz-mining in California of late years is the very general adoption of water-power as a motor, thus cheapening operations. In most of the mining sections water is available and the storage reservoirs built by the hydraulic miners are now utilized for water supplies to the quartz mines. As a general thing this water is brought in with a high head or pressure so that there is plenty of power. This feature has had the effect of bringing



to a profitable point quartz ventures that were not paying when steam was used.

It is worthy of note that many mines abandoned years ago have been re-opened and worked recently, the conditions having changed. In the first place the miners can work ore much more cheaply than in former years, and supplies are cheaper, means of transportation better and knowledge of mining increased. The Stonewall Mine in San Diego County, for instance, was abandoned for ten years and filled with water. It was purchased by the governor of the State who re-opened the mine and equipped it with a fine milling plant and other improved machinery so that it is very profitable. Many other instances of a similar character might be cited.

Hydraulic mining was at one time the source of a large annual output of gold in California, and millions of dollars were invested in the mines, reservoirs, ditches, flumes, and plants. Litigation arose between the mine-owners and the owners of lands along the rivers below the mines, owing to the débris or tailings from the mines injuring the farming lands and navigable rivers. Long-contested trials resulted in most of the mines being closed down under injunction by the United States courts, and they still remain idle. These injunctions affected the hydraulic mines in the tier of counties extending from Shasta to Calaveras. However, the counties of Siskiyou, Trinity, and Del Norte in the northwestern angle of the State have many hydraulic mines in operation, and this is the principal branch of mining carried on there. The conditions for this branch of mining are exceptionally good along the Trinity and Klamath Rivers and their tributaries. In that region there is no valid objection to hydraulic mining being carried on, the streams not being navigable and the débris question not being an important one. During the past four or five years hydraulic mining operations have increased in the three counties mentioned, and large extents of ground are being developed with first-class plants.

Owing to the practical stoppage of this class of mining in large portions in California, no improvements of note have been made of late in the methods of carrying on the operations.

In some places this kind of mining is carried on in a small way by using what are called débris dams. These dams are obstructions placed across the beds of streams for the purpose of holding back the sand and gravel coming from the mines to prevent their entering into the navigable streams and damaging the land in the valleys below. They are placed either in the mountain cañon or in the valleys where storage room can be conveniently arranged. The dams are made of stone, wood, or brush, as circumstances require. The structures are not designed to impound water, but simply to check the velocity of the current carrying the mining and other débris and to allow the deposit of the material behind them, and therefore they partake more of the character of retaining-walls than water-dams. Some large mines which built débris

dams were also enjoined from hydraulic mining by the courts, notwithstanding the dams, on the ground that the waters of the streams were muddied by the overflow waters from said débris dams, all the matter in suspension not having been precipitated and retained.

A commission of United States engineers, under instructions from Congress, is now engaged in examining into the whole question of hydraulic mining in California, and its effects upon the streams, with a view of finding the actual damage done by the débris from the mines and also to see if there is any practicable way to permit the mines to be worked without damage to property or rivers.

This commission will make a report to Congress on the subject. In hydraulic mining water is made to do the work of moving the material by being brought under heavy pressure and in large volumes against the gravel banks. These banks are first shaken or loosened by heavy blasts of powder, and when the water is turned through the nozzles against the bank the gravel is torn down and washed through the long line of sluices, undercurrents, etc., and the gold caught, the débris or tailings passing on into the cañons, streams, and rivers. The heavy portion soon comes to rest, but the lighter sands often go for some distance before being deposited, and it is these sands, filling up the rivers, which brought about the "débris question" in California.

It is a very expensive operation to equip one of the claims, because the gravel bank is worthless unless an abundance of water can be supplied. Therefore the companies must construct reservoirs, ditches, flumes, etc., and lay a line of pipe to bring the supply under pressure to the point where it is to be used. Then, again, very expensive bed-rock tunnels must also often be made to get rid of the tailings, for there must be "fall" for this débris to pass on out of the way. For these reasons the business of hydraulic mining is generally carried on by companies of capitalists, the expense of opening and equipping one of these mines being beyond the means of the individual miner or prospector.

Before the injunctions of the courts stopped the large hydraulic mines of the State a machine was in use for working shallow banks and low deposits in basins and creeks called the hydraulic gravel elevator. Many valuable auriferous deposits are found in basins and flats lying along creeks far too low to be underrun by bed-rock tunnels, open cuts, or drains at any cost, and these deposits had to be worked by shovels and barrows, whims, engines, derricks, and pumps. To overcome these difficulties, and to dispense with the use of expensive pumping plants, the hydraulic elevator was devised and put in use.

It was at first looked upon with some doubt as a practical apparatus to do any work on a large scale; but, when the large mines were prevented from working by the ordinary hydraulic method, this appliance was tried in these claims and has been found to answer the purpose of working them, though on a more limited scale than was possible by the old method.



The principle upon which the operation of these hydraulic gravel elevators is based is that of driving gravel up hill by hydraulic force. It is only necessary to give the impelling water more velocity than it has through an ordinary flume to make it acquire sufficient force to carry gravel up an inclined plane. This fact suggested the construction of a form of machine which should so direct and confine the inherent hydraulic force of a stream of water so as to impel before its power masses of earth and gravel.

These hydraulic gravel elevators are simple in construction. An inclined pipe or closed box, open at upper and lower ends, is placed in position and the open end of the ground section is concave in shape, or a lower half-section of pipe flaring outward, into which earth, sand, and gravel are sluiced by hydraulic giants through bed-rock flumes leading thereto. This lower end is set into a chamber or hole excavated below the surface bedrock. The material sluiced into this lower entrance is taken up by a stream issuing from a fixed hydraulic nozzle, which by its force impels it upward through the pipe to its point of discharge into the open flume above, whence it is carried away through a line of sluices to a final dump. Confined as the material is within this tight iron box it goes as fast as the stream itself, and as the gravel is acted upon by the full force of the water from the hydraulic nozzle, the gravel is disintegrated by this action. The practical operation of these machines has determined the fact that when properly and advantageously set and operated, the amount of water and material which can be raised and impelled through the upraise pipe is governed and limited only by the volume of water used acting under its given head or pressure and the carrying capacity of the pipe. The character of the gravel deposits, whether good piping ground or hard compact conglomerate, governs the size of the hydraulic giants used, and consequently the quantity of water requisite for piping purposes. The greater the pressure and volume at command the larger the quantity of earth and gravel that can be raised.

These machines are being worked in various parts of the State, where the vast areas of ground which have been piped out in the past are utilized as reservoirs for impounding the débris which may be hydraulicked by the elevator system. The gravel from the standing banks is washed down by giants sluiced to the elevator and forced up, as described, to such points that it may be led to old workings or pits and there retained and not flow into the streams, the gold being retained in the sluices and other gold-saving appliances.

Without this apparatus for elevating and throwing back the débris, many mines would be unable to impound their débris without very great expense, since old workings can be utilized as débris reservoirs. The most notable instance of the use of these machines is at the North Bloomfield mine, Nevada County, the most important hydraulic mine in the State, and the one against which the first important suit was brought. A proposition was made to this company to put in a 20-inch



hydraulic gravel elevator to be operated primarily under a vertical hydrostatic pressure of 440 feet, so that with a sufficient supply of water for use through the elevator and for the piping purposes of the accessory hydraulic giants, the earth, sand, and gravel could be elevated 80 feet above the entrance section of the elevator. This proposition was accepted and the elevator put in. A 6½-inch nozzle attached to the elevator distributing pipe line was introduced into the entrance-section of the apparatus, and a No. 5 giant, having an inlet of 15 inches and a discharge nozzle of 4½ inches, was used for piping the earth and gravel towards the elevator entrance. Under these conditions, and with a volume of 575 miner's inches of water discharged through the giant, and a further volume of 1,025 miner's inches delivered to the elevator, earth, sand, and gravel were elevated to a height of 81 feet vertically into the outer flume.

It was subsequently found that it was within the power of the mining company to avail themselves of an ample volume of water having an additional pressure of 90 feet, which would give an aggregate vertical pressure of 530 feet. The necessary connections were made and practical operations demonstrated that under this pressure of 530 feet, with a 3-inch nozzle used in the elevator and a 5-inch nozzle on the giant and a volume of 1,300 miner inches discharged through the elevator nozzles and 800 inches used through the giant nozzle in its piping operations, the gravel, etc., was elevated vertically 87 feet above bed-rock.

The drift mining interests of California have been materially advanced of late years. In the first place some of those gravel mines formerly worked by hydraulic system stopped washing away the whole bank of gravel and "drifted" out the lower and richer stratum, only washing it after it was taken to the surface. And again, capital turned its attention to drift mining when hydraulic mining was no longer possible to be carried on. The term drifting, as applied to this class of gravel mining, relates to the mode of extracting the auriferous gravel by means of tunnels and gangways or galleries. This system is rendered necessary in consequence of the capping of volcanic lava overlying the ancient channels in which the gold is found and rendering hydraulic operations impossible. In hydraulic mining the entire face of the bank is removed by the pipe; in drift claims only the lower stratum of gravel lying on the bed-rock is mined and washed. The average depth of pay gravel when mined in this manner is about three feet.

These gravel deposits are opened by tunnels generally, although it is sometimes necessary to sink shafts. The gravel after being mined out is brought to the surface and washed, either directly through sluices and the gold caught in the riffles, or where it is hard and cemented it is crushed in stamp batteries and treated exactly as is free milling auriferous quartz. The underground work is very similar to that in coal mines. The cost of opening these mines by tunnel is often very great, taking years of time to get at the channel.

The conditions of drift mining ground may be briefly stated as follows: A "divide" or ridge between two deep river cañons, the sides cut into by small ravines tributary to the main streams, the top sometimes several miles wide, mesa-like and comparatively level, and having only one main slope in the direction of the ancient buried rivers. This top is usually composed of lava several hundred feet thick, and somewhere under this lava cap and between walls of true country rock termed the "rims" is the channel of an ancient river, sometimes with little or no gravel in its bed, sometimes with gravel a couple of hundred feet thick; this gravel sometimes barren of gold, but more frequently found to be rich in the precious metal. Under all of the above are granites, metamorphic slates, and talcose rocks. The problem of drift mining is to find the position of these ancient river channels and open up and prospect them with the least possible expenditure, and if a lead of pay gravel is found to work it at the least possible cost. The gold found in these channels varies from flour-like fineness to large lumps. It is most concentrated on the gravel lying immediately on the bed-rock.

These deposits of gold-bearing gravel were laid down by a system of prehistoric or "dead rivers" as they are called, whose channels were wider and slopes steeper than the rivers of to-day. The waters of these old Pliocene rivers eroding the auriferous rocks, concentrated the gold in deposits often three or four hundred feet wide at the bottom and several thousand feet wide at the top. Volcanic eruptions covered these old rivers with lava and tufa hundreds of feet deep, flowing in great masses directly down their beds. These old buried rivers are now high above the present ones.

The bottom cement or gravel pays from \$1.50 to \$10 per car-load, and when they breast out 50 to 150 feet wide and 2 to 8 feet deep the channel will yield from \$100 to \$200 per running foot. Some of the mines yield very largely, while others have scarcely paid expenses.

The cost of moving gravel out of a drift mine by hand varies from 5 to 20 cents per car-load; by horse-power it is from 3½ cents to 8 cents, depending on the distance.

Sierra, Nevada, and Placer counties are the principal seats of drift-mining; the latter leading in this branch. A few examples chosen from the Placer County mines, as reported by the State mineralogist, will show the cost of working this class of mines.

The Dardanelles mine is situated 1 mile southwest from the town of Forest Hill, in Forest Hill district; embraces a tract of 312.77 acres. The ground is opened by a bed-rock tunnel 2,000 feet in length, driven at a cost of \$10 per foot through a slate formation. At about 600 feet from the entrance the tunnel cuts a fissure, in the slate, having a course north 15 degrees west, and south 15 degrees east, that of the tunnel being north 34 degrees west. The fissure, which is 2 feet wide, is filled with quartz, in bunches, and a soft, gray mass of volcanic ash. The



vein is visible on the present surface, where formerly lay a bed of gravel, which has been washed off, for this was once an hydraulic mine. It is stated that the vein penetrated some distance into the gravel bed. The stratum of pay gravel in this mine, which is 5 feet thick, is a very hard cement, requiring to be crushed with a stamp. The channel contains a considerable number of bowlders. Resting above the gravel is a bed of coarse gray sand, so firm that a post only here and there is required in the breast. The mine is ventilated by a No. 5 Sturtevant blower. The tunnel supplies the greater part of the water required in the battery for working the gravel.

This ground has been worked thirty-six years, mostly by the hydraulic process. The width of the pay channel now being drifted on is not known, but the breast is 71 feet in width, gold being visible on the cobbles. From 40 to 43 car-loads of 20 cubic feet each are extracted in each day of twenty-four hours. The timbers used are round pine sticks, costing 1 cent per running foot for the cutting, and  $1\frac{1}{2}$  cents for the hauling from a distance of half a mile. The mine employs thirty men, at \$3 per day for miners and \$2.50 per day for car men.

The mill contains 5 stamps of 930 pounds each, which drop  $7\frac{1}{2}$  inches, from one hundred and one to one hundred and four times per minute, crushing 900 cubic feet of cement per twenty-four hours, through a round-punched screen, holes three-sixteenths of an inch in diameter; dimensions of screens, inside of the frame, 54 by 20 inches. The battery requires 7 miners' inches of water, and is supplied with gravel by a Hendy feeder. The shoes and dies are of cast-iron, costing 7 cents per pound at the foundry. Steel is to be used in future. The apron is 12 feet long by 60 inches wide, and is plated for 3 feet near the battery; inclination, three-fourths of an inch to the foot; plate not silvered. Beyond the plate the apron has four transverse grooves, about an inch wide and half as deep, filled with quicksilver. Quicksilver is also used in the battery. The pulp passes from the apron to the Eureka rubber, and thence through ripple sluices. On panning some of the material passing from the rubber, no gold was seen. The gravel contains a considerable portion of pyrites, but whether they are auriferous or not is not known. The recovery from the different parts of the mill is divided as follows: In battery, 87; on plate, 71; in rubber,  $5\frac{1}{2}$ , and in the sluices,  $1\frac{1}{2}$  per cent. The amalgam from the battery is worth much more per ounce than the other, being formed of coarse gold. The mill, which is new, and framed for 10 stamps, went into operation May, 1888. The motive power required is obtained from a Pelton wheel, 2 feet diameter, with 20 inches of water, under 290 feet pressure, obtained from Volcano Creek, and owned by the mill. Three men are employed in the mill, at \$3 per day each. This property, formerly worked by hydraulic process, was paying well when further work upon it was enjoined by the courts.



Length of tunnel.....	2,000 feet.
Cost of tunnel.....	\$10 per foot.
Nature of pay gravel.....	Cement.
Nature of bed rock.....	Slate.
Depth of gravel drifted.....	5 feet.
Length of time worked (in all).....	36 years.
Number of men worked in mine.....	30
Wages in mine.....	\$3 per day.
Number of men in mill.....	3
Wages paid in mill.....	\$3 per day.
Number of stamps.....	5
Weight of stamp.....	930 pounds.
Duty of stamp.....	180 cubic feet in 24 hours.
Drop of stamp.....	7.5 inches.
Drops per minute.....	101 to 104.
Size of screens.....	54 to 20 inches.
Size of holes in screens.....	$\frac{3}{16}$ inch.
Quantity of water used in battery.....	7 inches.
Quantity of water used for power.....	20 inches.
Fall of water used for power.....	290 feet.

The Breece and Wheeler mine, located near the town of Bath, in Bath district, at an altitude of 2,800 feet, comprises a number of claims, some of them taken up as early as 1856. The channel in this ground has lately averaged a width of 50 feet. The tunnel is 7,000 feet in length, and cost on an average \$8 per foot. The formation passed through is gravel, the bed-rock being slate. The pay gravel is cemented and has to be crushed in a mill. The average depth extracted is 7 feet. At the present time the yield is about \$9 per car-load, and the extraction 27 car-loads daily. But little timber is required in the mine and cost only the cutting and hauling. About 30 inches of water issues from the tunnel. Boulders are not numerous except in spots. Hercules powder is used.

The mill has 10 stamps of 850 pounds each, dropping 10 inches, eighty-five times per minute, and crush 27 car-loads ( $40\frac{1}{2}$  tons) in twelve hours, through a screen of iron-wire meshes of one-eighth of an inch clear opening. The screens are each 4 feet long and 2 feet high. The battery is fed by hand, the large cobbles being picked out and allowed to weather before being washed in a flume 400 feet long. There are no plates in this mill, but simply a wooden apron with eight transverse grooves about  $1\frac{1}{2}$  inches wide and one-half inch deep, containing quick-silver; the inclination is three-quarters of an inch to 2 feet. From the apron the pulp passes to the Eureka rubber, and thence through 100 feet of ripple sluices. Of the amalgam obtained 75 per cent. is found in the battery while the dies are new, decreasing to 50 per cent. as the dies wear down, leaving less room for the amalgam to accumulate and remain undisturbed by the action of the stamps. From twenty to twenty-five men are employed in the mine at \$3 per day. The mill employs three men at from \$3 to \$3.50 per day; four being engaged on outside work. The mill is worked by steam-power, with a consumption of  $1\frac{1}{2}$  cords of wood in twelve hours.

Altitude.....	2,800 feet.
Length of tunnel.....	7,500 feet.
Cost of tunnel.....	\$8 per foot.
Nature of pay gravel.....	Cement.
Nature of bed rock.....	Slate.
Width of pay channel.....	50 feet.
Depth of channel drifted.....	7 feet.
Pay per car (2 tons).....	\$9
Number of car loads.....	27 per day.
Gross daily product.....	\$243
Number of men in mine.....	20 to 25
Wages.....	\$3 per day.
Number of men in mill.....	3
Wages in mill.....	\$3 to \$3.50
Number of men on outside work.....	1
Number of stamps.....	10
Weight of stamp.....	850 pounds.
Drop of stamp.....	10 inches.
Drops of stamp.....	85 to 95 per minute.
Duty of stamp.....	9 tons in twenty-four hours.
Kind of screen.....	Iron wire, mesh $\frac{1}{2}$ of an inch.
Size of screen.....	48 by 24 inches.

Those desirous of obtaining more complete details of the methods and cost of working these drift mines will find in the last annual report of the State mineralogist an article by Russell L. Dunn.

The gold yield of the gravel is estimated at so much per car load, but the differences in capacity of the cars used in different mines makes direct comparison impossible. For convenience it is desirable to adopt as a unit the ton of 2,000 pounds. The minimum limit of yield which it will pay to mine, or rather the minimum of the running expense of mining (for it will pay to mine gravel which will just meet this expense, as increasing the probability of discovery of richer ground), has a wide range as between the different mines. Probably the lowest paying gravel and the cheapest mining is that of the Hidden Treasure mine. From February 27, 1888, to June 30, 1888—one hundred and eight working days—the figures are:

	Per load, 1 ton.	Total.
Gold yield.....	\$1.2347	\$39,821.53
Wages.....	.7202	23,528.00
Contracts.....	.1077	3,461.78
Expense, material, etc. ....	.0957	3,086.94
Total expense.....	.9236	30,079.72
Profit.....	.3111	9,741.81

Number of days' labor, 11,164.50. Number car loads gravel, 32,252.



## RECEIPTS AND EXPENDITURES FOR ELEVEN YEARS.

*Receipts.*

Gold yield.....	\$879, 523. 27
Receipts from other sources .....	19, 176. 16
Total .....	898, 699. 43

*Expenditures.*

Wages.....	490, 297. 64
All other expenses .....	137, 064. 35
Dividends .....	268, 092. 00

The cost per car load (\$0.9236) is exceptionally low, as under ordinarily favorable conditions \$1.50 to \$1.75 a car load is as low a figure as can be anticipated, and in most of the mines the cost is from \$2 to \$3.

The future of drift mining in California is promising. The better knowledge of the character and situation of the buried auriferous channels and the more systematic methods of exploration and mining have taken away much of the uncertainty which caused so many failures among the earlier drift mining operations.

River bed and bar mining are not so common in California as in early days, most of the rich bars on the rivers having been worked out. In some places, however, these bars are being worked over and over whenever the stage of the water permits. Up on the Klamath, in Siskiyou County, there is still a great deal of river-mining going on, the miners using the old-fashioned "wing-dams" and wheels to get at their claims. There is more of this class of work now going on in the extreme north-western counties than elsewhere in the State.

Several attempts have been made in the last few years to turn aside an entire river in order to get at the gold in the bottom, but none of these large enterprises have so far been successful. On the Tuolumne River, near Jacksonville, a short distance from Chinese Camp, a large amount of money was expended in building a dam and flume to get at the river-bed, and although about \$16,000 was obtained in one hole 5 feet deep and prospects looked well, the waters washed away the dam and flume and the investment was lost.

On the Big Bend of the Feather River, Butte County, the Big Bend Mining Company ran a tunnel about 12,000 feet long (which, being found to be too small, was enlarged in dimensions to 13 by 16 feet), built a dam, put in sluices, pumps, electric plant, and spent immense sums in laying bare some 14 miles of the river-bed, but no returns have been received and the projectors report the enterprise a failure. On the same river and above this claim the Golden Gate Company built a dam 50 feet high, a flume 50 feet wide and 3,300 feet long, and were about to begin work in the exposed river-bed when a sudden rise in the river washed away the dam and flume and stopped operations. A new dam and flume will be built this year and work started over again. Many people believe that large amount of gold will be taken out of these claims, but thus far, notwithstanding all the money spent and precautions taken against accident, none of these enterprises have been successful.



Two notable discoveries have been made in the Coast range within the past few years, and the old theory that there would be no gold mines of value in that range has been disproven. Los Burros district, in the southern end of the Santa Lucia range, Monterey County, was first worked for quartz in 1887, and now there are some 25 claims, of which the Cruikshank is the most important. The ore is free-milling, containing both silver and gold, the latter predominating. Placer gold is also found which is rough and angular, evidently coming from the ledges near by. A number of men are now at work in this district.

In Napa County, on the lower slopes of Mount St. Helena, silver mines have been found, and one, the Palisade, has a 10-stamp mill in operation. The ore produces about 30 ounces a ton.

The silver mining interests of California are small as compared with the gold. Silver ore is found in the following counties of the State: Alpine, Mono, San Bernardino, Napa, Fresno, Kern, San Benito, Sierra, Siskiyou, and Inyo. The principal silver district is that of Calico, San Bernardino County.

## CHAPTER IV.

### COLORADO.

By M. E. SMITH,

*Assayer in Charge United States Mint, Denver, Colo.*

The value of the product of the precious metals in Colorado during the calendar year 1889, based upon estimated reports and reports received from persons in charge of mines, was \$30,195,275, of which \$3,636,217 was gold, and \$26,559,058 was silver.

Gold has been reckoned at \$20 per ounce, fine; silver has been estimated at the coinage rate of \$1.2929 per ounce fine.

Values of lead and copper are given respectively at 3.8 cents and 13.5 cents per pound.

#### PRODUCTION BY MINES IN COLORADO, 1889.

Name of mine.	Value of gold.	Coinage value of silver.	Total value of gold and silver.	Value of lead.	Value of copper.	Total value.
<i>Boulder County.</i>						
American.....	\$1, 200. 00	.....	\$1, 200. 00	.....	.....	\$1, 200. 00
Alamakee .....	14, 995. 50	.....	14, 995. 50	.....	\$855. 90	15, 851. 40
Alpine.....	300. 00	.....	300. 00	.....	.....	300. 00
Buena .....	7, 500. 00	\$452. 52	7, 952. 52	.....	.....	7, 952. 52
Belcher .....	.....	25, 858. 58	25, 858. 58	.....	.....	25, 858. 58
Boston.....	13, 000. 00	6, 464. 64	19, 464. 64	.....	.....	19, 464. 64
B. and M .....	60. 00	6. 46	66. 46	.....	.....	66. 46
Black Cloud .....	1, 600. 00	1, 292. 92	2, 892. 92	\$760. 00	.....	3, 652. 92
Bunker Hill .....	.....	129. 29	129. 29	.....	.....	129. 29
Chingkus Kalm.....	1, 100. 00	.....	1, 100. 00	.....	.....	1, 100. 00
Columbia No. 7 and 8, Ni Wot	80, 000. 00	20, 000. 00	100, 000. 00	.....	.....	100, 000. 00
Colorado.....	640. 00	11. 64	651. 64	.....	.....	651. 64
Caribou .....	.....	49, 777. 77	49, 777. 77	.....	.....	49, 777. 77
Comstock .....	.....	1, 939. 39	1, 939. 39	.....	.....	1, 939. 39
Do2 Cansoe.....	600. 00	.....	600. 00	.....	.....	600. 00
Eureka .....	.....	1, 034. 34	1, 034. 34	.....	.....	1, 034. 34
Grand Central.....	380. 00	23. 32	412. 32	.....	.....	412. 32
Grant Company .....	.....	6, 464. 64	6, 464. 64	.....	.....	6, 464. 64
Gardner .....	280. 00	46. 54	326. 54	.....	.....	326. 54
Germania .....	.....	3, 232. 32	3, 232. 32	.....	.....	3, 232. 32
Humboldt .....	.....	3, 232. 32	3, 232. 32	.....	.....	3, 232. 32
Hereafter.....	402. 00	3, 611. 38	4, 013. 38	.....	.....	4, 013. 38

## PRODUCTION BY MINES IN COLORADO, 1889—Continued.

Name of mine.	Value of gold.	Coinage value of silver.	Total value of gold and silver.	Value of lead.	Value of copper.	Total value.
<i>Boulder County—Continued.</i>						
Idaho .....		\$6, 464. 64	\$6, 464. 64			\$6, 464. 64
Ingram .....	\$14, 436. 21	933. 23	15, 369. 44			15, 369. 44
Inter Ocean .....	1, 500. 00		1, 500. 00			1, 500. 00
I. Philips, placer .....	1, 000. 00		1, 000. 00			1, 000. 00
Jules .....	249. 35		249. 35			249. 35
John Jay .....	5, 000. 00		5, 000. 00			5, 000. 00
Koystono Group .....						
Kokcongga .....	3, 000. 00		3, 000. 00			3, 000. 00
Lost Chanco .....		6, 464. 64	6, 464. 64			6, 464. 64
Limbo .....	300. 00	16. 16	316. 16			316. 16
Little Corporal .....	100. 00		100. 00			100. 00
Last Chance .....	5, 000. 00		5, 000. 00			5, 000. 00
Modoc .....	5, 000. 00	193. 93	5, 193. 93			5, 193. 93
Morning Star .....	1, 000. 00		1, 000. 00			1, 000. 00
Mountain Lion .....	600. 00		600. 00			600. 00
Melvina * .....						
Monitor .....		1, 292. 92	1, 292. 92			1, 292. 92
Nil Desperandum .....	600. 00		600. 00			600. 00
Noupareil .....			1, 939. 39			1, 939. 39
Osceola .....	5, 000. 00		5, 000. 00			5, 000. 00
Phil Sheridan .....	500. 00		500. 00			500. 00
Puzzler .....	17, 200. 00	833. 93	18, 033. 93			18, 033. 93
Potosi .....	330. 00	1, 685. 97	2, 015. 97			2, 015. 97
Richmond Group .....	650. 00		650. 00			650. 00
Rebecca .....	946. 96	7. 34	954. 30			954. 30
Smoky Hill .....	1, 000. 00		1, 000. 00			1, 000. 00
St. Joe .....	100. 00	517. 17	617. 17			617. 17
Sovereign Peoplo .....	500. 00	646. 46	1, 146. 46			1, 146. 46
Standard .....	34. 28	4. 14	38. 42			38. 42
Smuggler .....	60, 000. 00	19, 393. 93	79, 393. 93			79, 393. 93
Sherman .....	8, 000. 00	2, 585. 85	10, 585. 85			10, 585. 85
Twin Blossom .....	200. 00	69. 81	269. 81			269. 81
Vulture .....		1, 292. 92	1, 292. 92			1, 292. 92
Wobster .....	500. 00		500. 00			500. 00
White Crow * .....						
Washburne .....	1, 227. 20	71. 51	1, 298. 71			1, 298. 71
Wigwam .....		21, 979. 79	21, 979. 79			21, 979. 79
Yellow Pine Group .....	64. 20	34, 559. 80	34, 624. 00	\$1, 216. 00		35, 840. 00
Confidential reports .....	66, 441. 46	27, 637. 10	94, 078. 56			94, 078. 56
Total production, 1889 ..	322, 537. 16	252, 177. 70	574, 714. 86	1, 976. 00	\$855. 90	577, 546. 76
<i>Clear Creek County.</i>						
Albro .....	750. 00	2, 666. 00	3, 416. 00		1, 012. 50	4, 428. 50
Anglo-Saxon Ext .....	880. 00	768. 00	1, 648. 00	250. 80	118. 80	2, 017. 60
Anglo-American* .....						
Argo .....	4, 500. 00	32, 322. 50	36, 822. 50	1, 900. 00		38, 722. 50
Backbone .....	84. 00	1, 485. 94	1, 569. 94	159. 60		1, 729. 54
Baldwin M. and M. Co .....		6, 063. 21	6, 063. 21			6, 063. 21
Barrell .....	1, 400. 00	1, 131. 30	2, 531. 30		378. 00	2, 909. 30
Colorado United M. Co* .....						

\* Confidential.



## PRODUCTION BY MINES IN COLORADO, 1889—Continued.

Name of mine.	Value of gold.	Coinage value of silver.	Total value of gold and silver.	Value of lead.	Value of copper.	Total value.
<i>Olear Creek County—Cont'd.</i>						
Cold Stream .....	\$34.60	\$4,473.53	\$4,508.13	\$394.44		\$4,902.57
Colorado Central .....		305,190.78	305,190.78	8,540.12		313,730.90
Crystal .....	420.00	1,292.90	1,712.90			1,712.90
Commonwealth .....	45.00	2,707.68	2,752.68	1,679.60		4,432.28
Champion .....	55,140.00	26,741.05	81,881.05		\$2,497.50	84,378.55
Champion Dirt* .....						
Continental .....	1,260.00	1,293.93	2,553.93		396.90	2,950.83
Casino .....	4,244.40	4,398.53	8,642.93	67.64		8,710.57
Dundeeberg Mining Co .....		19,393.00	19,393.00	1,254.00		20,647.00
Diamond Tunnel Co .....		150,630.08	150,630.08	2,280.00		152,910.08
Dave's Nest .....	1,000.00	19,393.00	20,393.00	1,026.00		21,419.00
Emma C .....	3,000.00	17,454.15	20,454.15	1,140.00		21,594.15
East Dives .....		7,757.00	7,757.00			7,757.00
Eclipse .....	770.00	7,110.95	7,880.95	627.00		8,507.95
European .....	300.00	2,715.09	3,015.09			3,015.09
Esmeralda* .....						
Foxhall Tunnel Co .....	4,620.60	8,969.93	13,590.53	818.98	923.40	15,332.91
Fraction .....	80.00	173.25	253.25			253.25
Franklin* .....						
Gem* .....						
Grandview .....	750.00	5,818.05	6,568.05	2,280.00		8,848.05
Gilman .....		958.04	958.04	1,222.96		2,181.00
Humboldt .....	3,600.00	14,545.12	18,145.12			18,145.12
Hood .....	1,000.00	969.70	1,969.70		270.00	2,239.70
Kangaroo .....	4,480.00	13,032.43	17,512.43	1,106.56		18,618.99
Kangaroo No. 2 .....	1,250.00	6,141.27	7,391.27	380.00		7,771.27
Kitty Clyde .....	3,800.00	3,331.19	7,131.19	1,513.69	72.76	8,717.64
Kaverne* .....						
Lamartine .....	156,000.00	1,208,484.84	1,164,484.84	55,024.00		1,219,508.84
Lexington .....	3,000.00	581.80	3,581.80		270.00	3,851.80
Little Mattie .....	15,900.00	36,317.46	52,217.46			52,217.46
Lake .....	1,200.00	96.97	1,296.97		810.00	2,106.97
Little Giant .....	490.00	9,950.30	9,540.30		212.80	9,753.10
Little Albert* .....						
May Flower .....	356.00	1,469.00	1,825.00	2,781.00		4,606.00
Miller Group .....	7,000.00	3,232.25	10,232.25		1,350.00	11,582.25
Metropolitan .....	12,428.40	26,639.50	39,067.90	1,991.80		41,059.70
Mendota .....	1,380.00	43,519.98	44,899.98	15,129.66		60,029.64
Mint .....		1,292.92	1,292.92	18.24		1,311.16
Mammoth .....		14,222.00	14,222.00	560.12		14,782.12
McClellan .....	52,040.00	47,213.24	99,253.24	608.18		99,861.42
Matilda Fletcher .....		2,215.38	2,215.38	9.59		2,224.97
Mary Foster* .....						
Mineral Chief .....	600.00	4,654.50	5,254.50	12,540.00		17,794.50
Nabob* .....						
Oneida .....	31,617.60	1,929.24	33,546.84		4,819.50	38,366.34
Orient .....		18,438.00	18,438.00	2,028.00		20,466.00
Ohio Comet Silver Mining Co .....		5,641.10	5,641.10			5,641.10
Park .....		912.50	912.50			912.50
Pay Rock .....		135,757.56	135,757.56	3,952.00		139,709.56
Plutus .....	38,990.00	62,060.60	101,050.60	285.00	1,417.50	102,753.10

\* Confidential.

## PRODUCTION BY MINES IN COLORADO, 1889—Continued.

Name of mine.	Value of gold.	Coinago value of silver.	Total value of gold and silver.	Value of lead.	Value of copper.	Total value.
<i>Olear Creek County—Cont'd.</i>						
Paymaster .....	\$1, 122. 00	\$19, 771. 46	\$20, 893. 46	\$19, 532. 00	.....	\$40, 425. 46
Pauline Placer .....	25, 000. 00	.....	25, 000. 00	.....	.....	25, 000. 00
Republican Mountain Mines, limited. ....	.....	9, 853. 40	9, 853. 40	604. 20	.....	10, 457. 60
Refugee .....	2, 281. 60	931. 00	3, 212. 60	.....	.....	3, 212. 60
Silver Age Mining Co* .....	.....	.....	.....	.....	.....	.....
Silver Queen .....	940. 00	6, 684. 29	7, 624. 29	692. 36	.....	8, 316. 65
Santa Fé .....	1, 230. 00	2, 968. 50	4, 198. 50	.....	.....	4, 198. 50
Stovens .....	2, 000. 00	25, 858. 00	27, 858. 00	26, 600. 00	.....	54, 458. 00
Senator* .....	.....	.....	.....	.....	.....	.....
Silver Cloud .....	.....	4, 200. 72	4, 200. 72	.....	.....	4, 200. 72
Silver Ring* .....	.....	.....	.....	.....	.....	.....
Shaftee Mining Co .....	13, 512. 00	806. 00	14, 318. 00	75. 00	.....	14, 393. 00
Talbert .....	1, 200. 00	646. 45	1, 846. 45	.....	\$2, 160. 00	4, 006. 45
Two Sisters Mining Co .....	140. 00	128, 514. 26	128, 654. 26	4, 256. 00	.....	132, 910. 26
Tishomingo .....	140. 00	4, 849. 76	4, 989. 76	3, 385. 50	.....	8, 375. 26
Washington* .....	.....	.....	.....	.....	.....	.....
Confidential reports .....	26, 655. 40	261, 847. 59	288, 502. 99	30, 004. 80	11, 826. 00	330, 333. 79
Total production, 1889 ..	488, 631. 60	2, 559, 588. 17	3, 048, 219. 77	206, 718. 84	28, 535. 66	3, 283, 474. 27
<i>Chaffee County.</i>						
April Fool Group .....	.....	\$387. 87	\$387. 87	\$684. 00	.....	\$1, 071. 87
Belle of Granite .....	\$660. 00	.....	660. 00	.....	.....	660. 00
Brunswick Co .....	.....	1, 551. 51	1, 551. 51	456. 00	.....	2, 007. 51
Black Veil .....	.....	356. 84	356. 84	.....	.....	356. 84
Colorado Placer Mining Co ..	1, 000. 00	.....	1, 000. 00	.....	.....	1, 000. 00
Eldorado .....	.....	1, 241. 21	1, 241. 21	228. 00	.....	1, 469. 21
Enterprise .....	1, 800. 00	.....	1, 800. 00	.....	.....	1, 800. 00
Frodonia .....	7, 600. 00	2, 088. 06	9, 688. 06	8, 664. 00	.....	18, 352. 06
Free Gold .....	10, 800. 00	.....	10, 800. 00	.....	.....	10, 800. 00
Gladstone .....	.....	1, 939. 39	1, 939. 39	600. 00	.....	2, 539. 39
Gulch .....	120. 00	465. 44	585. 44	.....	.....	585. 44
Isis .....	.....	3, 878. 78	3, 878. 78	608. 00	.....	4, 486. 78
Little Troy .....	1, 950. 00	.....	1, 950. 00	.....	.....	1, 950. 00
Lottie .....	.....	77. 57	77. 57	45. 60	.....	123. 17
Little Missouri .....	14. 00	19. 84	63. 84	478. 04	.....	541. 88
Mayflower .....	.....	310. 30	310. 30	.....	.....	310. 30
Madonna* .....	.....	.....	.....	.....	.....	.....
Mary Murphy .....	205, 868. 80	171, 223. 76	377, 092. 56	57, 326. 19	.....	434, 418. 75
Pat Murphy Mining Co .....	4, 080. 00	1, 978. 16	6, 058. 16	1, 550. 40	.....	7, 608. 56
Rarus and Warrior .....	28. 60	869. 61	898. 21	.....	.....	898. 21
Rough and Ready .....	.....	155. 15	155. 15	400. 00	.....	555. 15
Rainbow .....	65. 00	618. 01	683. 01	.....	.....	683. 01
Silver Shrino Group .....	.....	3, 878. 78	3, 878. 78	.....	.....	3, 878. 78
Swiss Boy .....	70. 00	3, 426. 18	3, 496. 18	380. 00	.....	3, 876. 18
Twin Lakes Hydraulic Gold Mining Co* .....	.....	.....	.....	.....	.....	.....
Trossa C .....	4, 040. 00	2, 172. 11	6, 212. 11	.....	.....	6, 212. 11
Uranus .....	.....	2, 172. 11	2, 172. 11	.....	.....	2, 172. 11
Confidential reports .....	42, 638. 00	274. 09	42, 912. 09	.....	.....	42, 912. 09
Total production, 1889 ..	280, 734. 40	199, 114. 77	479, 849. 17	71, 420. 23	.....	551, 269. 40

\* Confidential.



## PRODUCTION BY MINES IN COLORADO, 1889—Continued.

Name of mine.	Value of gold.	Coinage value of silver.	Total value of gold and silver.	Value of lead.	Value of copper.	Total value.
<i>Ouster County.</i>						
Ben Eaton .....	\$160. 00	\$1, 086. 06	\$1, 246. 06	.....	.....	\$1, 246. 06
Ben Franklin .....	.....	685. 25	685. 25	.....	.....	685. 25
Boulder Buffalo Hunter Mining Co .....	.....	3, 620. 20	3, 620. 20	.....	.....	3, 620. 20
Bull Domingo .....	.....	3, 874. 90	3, 874. 90	\$2, 128. 00	.....	6, 002. 90
Nellis .....	800. 00	13, 032. 72	13, 832. 72	.....	.....	13, 832. 72
Pioneer .....	120. 00	14, 196. 36	14, 316. 36	.....	.....	14, 316. 36
Pocahontas .....	.....	64, 646. 46	64, 646. 46	.....	.....	64, 646. 46
Sleeping Pet .....	120. 00	1, 954. 90	2, 074. 90	.....	.....	2, 074. 90
Silver Bar .....	.....	517. 17	517. 17	.....	.....	517. 17
Victoria .....	.....	93. 09	93. 09	.....	.....	93. 09
Zoo .....	.....	1, 183. 02	1, 183. 02	305. 90	.....	1, 488. 92
Total production, 1889 ..	1, 200. 00	104, 890. 13	106, 090. 13	2, 433. 90	.....	108, 524. 02
<i>Dolores County.</i>						
Argonaut .....	.....	2, 585. 85	2, 585. 85	.....	.....	2, 585. 85
C. H. C. ....	.....	3, 000. 88	3, 000. 88	1, 284. 40	.....	4, 285. 28
Cobler .....	3, 580. 00	78, 351. 50	81, 931. 50	4, 081. 20	.....	86, 012. 70
Enterprise .....	57, 016. 00	699, 448. 88	756, 464. 88	.....	.....	756, 464. 88
Golden Age .....	280. 00	6, 044. 43	6, 324. 43	304. 00	.....	6, 628. 43
Grand Duke .....	.....	1, 616. 15	1, 616. 15	1, 520. 00	.....	3, 136. 15
Jumbo .....	550. 00	12, 088. 88	12, 638. 88	627. 00	.....	13, 265. 88
Montezuma .....	8, 240. 00	18, 111. 35	26, 351. 35	9, 393. 60	.....	35, 744. 95
Stephens .....	824. 00	18, 098. 42	18, 922. 42	942. 40	.....	19, 864. 82
Swansea Gold and Silver Mining Co .....	2, 373. 00	54, 787. 87	57, 160. 87	1, 284. 40	.....	58, 445. 27
Total production, 1889 ..	72, 863. 00	894, 134. 21	966, 997. 21	19, 437. 00	.....	986, 434. 21
<i>Eagle County.</i>						
Alps .....	2, 060. 00	752. 48	2, 812. 48	.....	.....	2, 812. 48
Bleak House .....	.....	47, 697. 44	47, 697. 44	4, 332. 00	.....	52, 029. 44
Ben Butler .....	5, 000. 00	1, 245. 08	6, 245. 08	.....	.....	6, 245. 08
Eureka and Eclipse .....	80. 00	1, 034. 34	1, 114. 34	.....	.....	1, 114. 34
First Chance and Muncher ..	1, 060. 00	1, 318. 77	2, 378. 77	.....	.....	2, 378. 77
First National .....	.....	400. 00	400. 00	.....	.....	400. 00
Ground Hog * .....	.....	.....	.....	.....	.....	.....
Last Chance .....	660. 00	161. 61	821. 61	.....	.....	821. 61
Polar and Accidental .....	14, 020. 00	27, 668. 68	41, 688. 68	.....	.....	41, 688. 68
Pine Martin Group .....	28, 120. 00	60, 518. 13	88, 638. 13	.....	.....	88, 638. 13
Polar and Rocky Point .....	8, 000. 00	7, 148. 59	15, 148. 59	.....	.....	15, 148. 59
Spirit .....	7, 640. 00	85, 935. 83	93, 575. 83	.....	.....	93, 575. 83
Warrior's Mark .....	5, 700. 00	905. 05	6, 605. 05	.....	.....	6, 605. 05
Western * .....	.....	.....	.....	.....	.....	.....
Wyoming Valley .....	.....	2, 676. 35	2, 676. 35	.....	.....	2, 676. 35
Confidential reports .....	14, 000. 00	9, 050. 50	23, 050. 50	.....	.....	23, 050. 50
Total production 1889 ..	86, 340. 00	246, 512. 85	332, 852. 85	4, 332. 00	.....	337, 184. 85
<i>Fremont County.</i>						
Saltiel .....	10, 150. 00	31, 340. 60	41, 490. 60	18, 000. 00	\$1, 654. 20	61, 144. 80
Total production, 1889 ..	10, 150. 00	31, 340. 60	41, 490. 60	18, 000. 00	1, 654. 20	61, 144. 80

\* No production during 1889.



## PRODUCTION BY MINES IN COLORADO, 1889—Continued.

Name of mine.	Value of gold.	Coinage value of silver.	Total value of gold and silver.	Coinage value of lead.	Value of copper.	Total value.
<i>Gilpin County.</i>						
Adnddel.....	\$17,622.60	\$40,025.83	\$57,648.43	\$6,418.20	\$8,356.50	\$72,423.13
Banta.....	120.00	87,660.60	87,780.60	17,176.00	.....	104,956.60
Belmont.....	17,183.60	20,880.79	38,064.39	.....	5,232.60	43,296.99
Blaek Hawk Placer.....	3,200.00	.....	3,200.00	.....	.....	3,200.00
Conlee Burroughs.....	9,166.00	646.46	9,812.46	.....	1,620.00	11,432.46
Dew Drop.....	4,984.00	9.78	4,993.78	.....	.....	4,993.78
Egyptian.....	15,600.00	1,551.51	17,151.51	.....	648.00	17,799.51
Fanny.....	.....	6,723.80	6,723.80	.....	.....	6,723.80
Flack.....	55,000.00	3,878.78	58,878.78	.....	9,720.00	68,598.78
Freo America Mining Co.....	92.00	.....	92.00	.....	.....	92.00
Frontenac.....	77,000.00	140,282.81	217,282.81	.....	41,175.00	258,457.81
Gettysburg.....	3,800.00	284.44	4,084.44	.....	.....	4,084.44
Gregory Bobtail.....	169,880.00	10,343.20	180,223.20	.....	.....	180,223.20
Gunell.....	142,580.00	11,300.01	153,880.01	.....	6,210.00	160,090.01
Hawks.....	12,056.00	20.68	12,076.68	.....	.....	12,076.68
Hyndman Burroughs.....	12,000.00	1,939.39	13,939.39	.....	.....	13,939.39
Ivanhoe.....	3,000.00	25,599.99	34,599.99	23,940.00	.....	58,539.99
I. X. L.....	7,556.00	581.81	8,137.81	.....	.....	8,137.81
Jefferson.....	900.00	7,757.57	8,657.57	912.00	.....	9,569.57
Jefferson No.2.....	750.00	646.46	1,396.46	570.00	.....	1,966.46
Manhattan*.....	.....	.....	.....	.....	.....	.....
Mary Miller.....	2,331.00	28,128.95	30,459.95	.....	.....	30,459.95
McAllister.....	2,344.80	634.45	2,979.25	.....	726.30	3,705.55
Mountain Chief Mining Co.....	6,080.00	.....	6,080.00	.....	.....	6,080.00
New California Co.....	131,600.00	15,928.88	147,528.88	.....	.....	147,528.88
Poderson.....	2,875.00	484.85	3,359.85	283.50	.....	3,643.35
Pittsburgh Mining Co.....	3,825.00	872.72	4,697.72	.....	243.00	4,940.72
Running Lode.....	5,296.60	10,013.39	15,309.99	2,736.00	.....	18,045.99
Saratoga Mining Co.....	140,020.00	22,238.27	162,258.27	.....	.....	162,258.27
Silver Blonde.....	.....	210.74	210.74	.....	.....	210.74
Surprise.....	1,157.00	54.30	1,211.30	.....	162.00	1,373.30
San Juan*.....	.....	.....	.....	.....	.....	.....
Susquehanna.....	267.00	786.42	1,053.42	2,439.60	.....	3,493.02
Topeka.....	22,193.00	4,560.14	26,753.14	.....	3,712.50	30,465.64
Vanderbilt.....	5,500.00	.....	5,500.00	.....	.....	5,500.00
Winnabago Mining Co.....	25,671.80	469.21	26,141.01	.....	.....	26,141.01
Confidential reports.....	79,200.00	7,990.30	87,190.30	.....	.....	87,190.30
Total production, 1889	986,856.40	452,506.53	1,439,362.93	54,475.30	77,805.90	1,571,644.13
<i>Gunnison County.</i>						
Anna Dedreka.....	900.00	795.14	1,695.14	.....	.....	1,695.14
Bullion King.....	.....	12,929.29	12,929.29	.....	.....	12,929.29
Chronicle.....	100.00	3,943.43	4,043.43	.....	.....	4,043.43
Denver City.....	322.00	565.00	887.00	.....	105.57	992.57
Forest Queen*.....	.....	.....	.....	.....	.....	.....
Fairview*.....	.....	.....	.....	.....	.....	.....
Golden Islet.....	1,440.00	209.45	1,649.45	.....	.....	1,649.45
Ida May.....	500.00	271.51	771.51	228.00	.....	999.51
Lilly.....	16.00	4,032.55	4,048.55	.....	67.50	4,116.05
Little Crown.....	19,200.00	.....	19,200.00	.....	.....	19,200.00
Monte Vista.....	.....	478.38	478.38	258.40	.....	736.78

\* No production during 1889.

## PRODUCTION BY MINES IN COLORADO, 1889—Continued.

Name of mine.	Value of gold.	Coinage value of silver.	Total value of gold and silver.	Value of lead.	Value of copper.	Total value.
<i>Gunnison County—Cont'd.</i>						
Raymond .....	\$4,500.00	\$1,396.35	\$5,896.35	\$1,444.00		\$7,340.35
Sacramento* .....						
Silver Islet* .....						
Confidential reports .....	10,200.00	44,911.15	55,111.15	16,796.00		71,907.15
Total production, 1889 .....	37,178.00	69,532.25	106,710.25	18,726.40	\$173.07	125,609.72
<i>Hinsdale County.</i>						
Bon Homme .....	100.00	1,745.44	1,845.44			1,845.44
Cora and Sulphuret .....		1,326.53	1,326.53			1,326.53
Contention .....	120.00	905.00	1,025.00			1,025.00
Independence .....	260.00	771.79	1,031.79	3,488.40		4,520.19
Mountain King .....		760.23	760.23	1,273.00		2,033.23
Ocean Wave .....		8,016.15	8,016.15	3,769.60		11,785.75
St. Jacob's .....	1,080.00	9,309.08	10,389.08			10,389.08
Yellow Medicine .....	120.00	1,254.13	1,374.13	760.00	5,400.00	7,534.13
Total production, 1889 .....	1,680.00	24,088.35	25,768.35	9,291.00	5,400.00	40,459.35
<i>Lake County.</i>						
Adams Mining Co. ....	3,128.00	46,857.04	49,985.04	105,716.00		155,701.04
Agassiz Mining Co. ....		82,390.62	82,390.62	29,488.00		111,878.62
Amity .....	543.20	1,542.84	2,086.04			2,086.04
Antioch .....						
A. Y. & Minnie .....		1,682,768.15	1,682,768.15	440,941.36		2,123,709.51
Allegheny .....	431.60	4,915.70	5,347.30			5,347.30
Crysolite .....		70,378.01	70,378.01	4,227.54		74,605.55
Col. Sollers† .....						
Catalpa .....		40,127.34	40,127.34			40,127.34
Cora Belle Mining Co† .....						
Continental Chief .....	14,912.00	686,855.74	701,767.74	49,567.20		751,334.94
Crescent .....		9,503.02	9,503.02			9,503.02
Clear Grit† .....						
Dinero Mining Co .....	2,340.00	60,629.25	62,969.25			62,969.25
Dunkin .....		330,570.67	330,570.67	1,520.00		332,090.67
Denver City Mining Co† .....						
Doras .....		11,701.00	11,701.00			11,701.00
Dyer† .....						
Evening Star .....						
Ella Beeler .....	203.40	934.79	1,138.19	494.00		1,632.19
Fortunate .....						
Golden Curry .....		424.07	424.07			424.07
Garden City .....		103,434.00	103,434.00	39,900.00		143,334.00
Griffin .....	1,500.00	24,565.65	26,065.65			26,065.65
Humboldt .....	3,752.60	61,043.06	64,795.66	3,724.00		68,519.66
Henrietta and Maid of Erin Consolidated Mining Co .....		258,585.85	258,585.85	1,520,000.00	13,500.00	1,792,085.85
Howard† .....						
Iron Silver Mining Co .....	42,260.00	785,912.22	828,172.22	148,504.00		976,676.22
Louisville and Colorado, No. 2 .....	17,043.00	216,564.36	233,607.36	76,000.00		309,607.36
Leadville Consolidated Mining Co† .....						
Little Chief Mining Co .....		38,815.02	38,815.02	2,584.00		41,399.02

\* No production during 1889.

† Confidential.



## PRODUCTION BY MINES IN COLORADO, 1889—Continued.

Name of mine.	Value of mine.	Coinage. value of silver.	Total value of gold and silver.	Value of lead.	Value of copper.	Total value.
<i>Lake County—Continued.</i>						
Lee Basin Mining Co*.....						
Lillian Mining Co*.....						
Matchless .....		\$271, 515. 14	\$271, 515. 14			\$271, 515. 14
Morning Star.....		552, 727. 26	552, 727. 26	\$237, 500. 00		790, 227. 26
Mike and Star* .....						
Mikado Mining Co .....	\$12, 000. 00	816, 407. 25	828, 407. 25	60, 800. 00		889, 207. 25
Nisiprius Consolidated Mining Co .....		210, 953. 03	210, 953. 03	82, 764. 00		293, 717. 03
Ore City.....		12, 929. 29	12, 929. 29	12, 160. 00		25, 089. 29
Reed and National M. & M. Co* .....						
Silver Cord Mining Co*.....						
Small Hopes* .....						
Sattellite .....		2, 682. 70	2, 682. 70	760. 00		3, 442. 70
Snow Drop .....	6, 000. 00		6, 000. 00			6, 000. 00
Star of the West.....		226, 262. 00	226, 262. 00		\$53, 200. 00	279, 462. 00
Smuggler .....		90, 505. 05	90, 505. 05	133, 000. 00		223, 505. 05
Tiger Mining Co*.....						
Tip Top .....		210, 876. 75	210, 876. 75	4, 402. 68		215, 279. 43
Yankee Deedle* .....						
Confidential reports .....	73, 207. 82	1, 976, 928. 91	2, 050, 136. 73	355, 743. 00	16, 200. 00	2, 422, 079. 73
Total production, 1889 ..	177, 321. 62	8, 890, 305. 78	9, 067, 627. 40	3, 309, 795. 78	82, 900. 000	12, 460, 323. 18
<i>La Plata County.</i>						
Cumberland .....		823. 59	823. 59			823. 59
Cera G.....		402. 09	402. 09			402. 09
Eureka .....	660. 00	174. 54	834. 54			834. 54
Morning Star .....	1, 500. 00		1, 500. 00			1, 500. 00
Sultana .....	120. 00	45. 25	165. 25			165. 25
Western Belle.....	1, 900. 00	170. 66	2, 070. 66			2, 070. 66
Total production, 1889 ..	4, 180. 00	1, 616. 13	5, 796. 13			5, 796. 13
<i>Ouray County.</i>						
Estimated production .....	24, 750. 00	1, 320, 000. 00	1, 344, 750. 00	181, 500. 00	123, 750. 00	1, 650, 000. 00
<i>Park County.*</i>						
Alma Placer.....		15, 000. 00	15, 000. 00			15, 000. 00
Atlantic Mining Co.*.....						
Baltic.....		15, 000. 00	15, 000. 00			15, 000. 00
Brownlow Gold and Silver Mining Co .....	18, 080. 00	1, 163. 63	19, 243. 63	1, 368. 00		20, 611. 63
Burnside .....		173. 76	173. 76			173. 76
C. W. Lower Placer .....	1, 000. 00		1, 000. 00			1, 000. 00
Copper Bonanza .....	100. 00		100. 00			100. 00
Dolly Varden .....		13, 058. 29	13, 058. 29			13, 058. 29
Danville Group.....		4, 266. 66	4, 266. 66	1, 254. 00		5, 520. 66
Deadwood Placer .....	500. 00		500. 00			500. 00
E. Pluribus Unum.....	45. 00	704. 64	749. 64			749. 64
Everlasting.....		2, 787. 55	2, 787. 55			2, 787. 55
Forest Queen .....		969. 69	969. 69			969. 69
Fairplay Placers.....	5, 000. 00		5, 000. 00			5, 000. 00
Fanny .....	3, 181. 89	11, 518. 73	14, 700. 62			14, 700. 62

\*Confidential.



## PRODUCTION BY MINES IN COLORADO, 1889—Continued.

Name of mine.	Value of gold.	Coinage value of silver.	Total value of gold and silver.	Value of lead.	Value of copper.	Total value.
<i>Park County—Continued.</i>						
Fairbury .....		\$362.00	\$362.00			\$362.00
Good Samaritan .....	\$1,820.00	12,670.70	14,490.70	\$3,192.00		17,682.70
Great Eastern .....		173.25	173.25		\$9.18	182.43
Hock Hocking .....	400.00	258.58	658.58			658.58
Hill Top <i>et al.</i> .....		153,858.57	153,858.57	148,960.00		302,818.57
Hudson .....		775.75	775.75			775.75
Hugo .....		1,086.06	1,086.06			1,086.06
Juno .....		356.84	356.84			356.84
Keystone* .....						
Little Miko .....		608.00	608.00		256.50	864.50
Lucky Queen .....	520.00	2,269.03	2,789.03			2,789.03
Liebelt .....	1,650.00		1,650.00			1,650.00
New York .....		10,000.00	10,000.00			10,000.00
Pay Rock .....		500.46	500.46			500.46
Peerless .....	26,246.45	11,430.40	37,676.85			37,676.85
Peerless Maud .....		40,184.23	40,184.23	16,872.00		57,056.23
Paris .....		80.00	80.00			80.00
Pennsylvania Placer .....	500.00	15.51	515.51			515.51
Peabody Placer .....	17,740.00		17,740.00			17,740.00
Phillips Gold Mining Co .....	26,610.00	2,064.00	28,674.00			28,674.00
Rose .....	210.00		210.00			210.00
Russia .....	600.00	11,736.10	12,336.10			12,336.10
Shelby .....	1,050.00	8,145.45	9,195.45	6,650.00		15,845.45
Tarryall Placer .....	2,000.00		2,000.00			2,000.00
Union .....	9,000.00	517.17	9,517.17			9,517.17
Wilson .....	190.00	1,965.25	2,155.25	750.88		2,906.13
Zula Chief .....	40.00	1,131.31	1,171.31			1,171.31
Confidential reports .....	308.60	7.87	316.47			316.47
Total production, 1889..	116,791.94	324,839.48	441,631.42	179,046.88	265.68	620,943.98
<i>Pitkin County.</i>						
Aspen .....		42,189.55	42,189.55	1,245.64		43,435.19
Aspen Compromise .....		2,552,253.12	2,552,253.12	230,668.02		2,782,921.14
Aspen Mining and Smelting Co .....		1,136,607.66	1,136,607.66	134,428.80		1,271,036.46
Camp Bird .....		18,101.01	18,101.01			18,101.01
Compromise Mining Co .....		1,583,515.12	1,583,515.12	91,200.00		1,674,715.12
Durant Mining Co .....		57,199.18	57,199.18	4,256.00		61,455.18
Enterprise Mining Co .....		304,314.83	304,314.83	144.59		304,459.42
Little Rule .....		9,696.96	9,696.96	912.00		10,608.96
Regent .....		495,992.23	495,992.23	62,738.00		558,730.23
Smuggler .....		37,494.94	37,494.94	4,940.00		42,434.94
Sunset .....		8,791.91	8,791.91	760.00		9,551.91
Jenny Lind .....		993.90	993.90			993.90
Chloride .....		12,468.19	12,468.19	100.70		12,568.89
Traynor .....		2,521.20	2,521.20	2,888.00		5,409.20
Mollie Gibson .....		166,968.87	166,968.87			166,968.87
Dixon .....		1,532.11	1,532.11			1,532.11
Little Annie .....		3,692.60	3,692.60			3,692.60
Blazing Star .....		627.06	627.06			627.06
Bushwhacker .....		15,732.36	15,732.36			15,732.36
Oakland No. 2 .....		6,200.88	6,200.88	228.00		6,428.88

\*Confidential.

## - PRODUCTION BY MINES IN COLORADO—Continued.

Name of mine.	Value of gold.	Coinage value of silver.	Total value of gold and silver.	Value of lead.	Value of copper.	Total value.
<i>Pitkin County—Continued.</i>						
Carlisle .....		\$3, 154.73	\$3, 154.73			\$3, 154.73
Edison .....		404, 829.05	404, 829.05			404, 829.05
Louise .....		1, 163.63	1, 163.63			1, 163.63
O.K. ....		46, 493.73	46, 493.73	\$4, 410.00		50, 903.73
Buckhorn.....		3, 232.32	3, 232.32			3, 232.32
North Star.....		83, 928.77	83, 928.77			83, 928.77
Bob Ingersoll.....		17, 144.24	17, 144.24			17, 144.24
Porey Consolidated Mining Co.....		42, 666.66	42, 666.66			42, 666.66
Sam Houston .....		2, 583.26	2, 583.26			2, 583.26
Boulder.....		11, 026.09	11, 026.09			11, 026.09
Bonny Bell .....		25, 858.58	25, 858.58			25, 858.58
Franklin.....		323, 232.31	323, 232.31	9, 120.00		332, 352.31
Last Dollar .....		155, 151.50	155, 151.50			155, 151.50
Little Noll .....		23, 272.72	23, 272.72			23, 272.72
Standard .....		135, 757.56	135, 757.56	34, 200.00		169, 957.56
Estimated Mines (not named)		910, 222.21	910, 222.21	380.00		910, 602.21
Total production, 1889..		8, 646, 611.04	8, 646, 611.04	582, 619.75		9, 229, 230.79
<i>Rio Grande County.</i>						
Aztec Mining Co .....	\$26, 000.00	4, 951.91	30, 951.91			30, 951.91
Golconda Mining Co.....	7, 480.00	478.38	7, 958.38			7, 958.38
Total production, 1889..	33, 480.00	5, 430.29	38, 910.29			38, 910.29
<i>San Juan County.</i>						
Estimated production, 1889..	378, 000.00	735, 000.00	1, 113, 000.00	345, 000.00	\$42, 000.00	1, 500, 000.00
<i>San Miguel County.</i>						
Estimated production, 1889..	405, 000.00	1, 050, 000.00	1, 455, 000.00	45, 000.00		1, 500, 000.00
<i>Summit County.</i>						
Arctic .....	1, 001.00	543.03	1, 544.03			1, 544.03
Alsatian .....		2, 385.40	2, 385.40			2, 385.40
Ada Placer .....	1, 086.00	14.00	1, 100.00			1, 100.00
Boll.....		1, 939.38	1, 939.38	2, 736.00		4, 675.38
Buda Mining Co .....		183.60	183.60	266.00		449.60
Brooks-Snyder.....		500.00	500.00			500.00
Boss Mining Co.....	3, 200.00	982.60	4, 182.60		405.00	4, 587.60
Boston Mining Co .....		4, 848.47	4, 848.47	760.00		5, 608.47
Bello .....		526.22	526.22	1, 446.28		1, 972.50
Brittle Silver*.....						
Briar Rose* .....						
Buena Vista .....		862.36	862.36	215.46		1, 077.82
Boss et al .....	1, 700.00	144, 290.89	145, 990.89	6, 308.00		152, 298.89
Baltimore.....		239.19	239.19	577.60		816.79
Blue River .....	175.00		175.00			175.00
Clarion .....		463.45	463.45	150.00		613.45
Congress Group .....	480.00		480.00			480.00
Champion.....		67, 621.20	67, 621.20			67, 601.20
Champion Tunnel Mining Co* .....						
Congress.....		1, 462.29	1, 462.29	608.00		2, 070.29
Cincinnati .....		2, 220.00	2, 220.00			2, 220.00
Country Boy.....	460.00	690.00	1, 150.00			1, 150.00

\*Confidential.



## PRODUCTION BY MINES IN COLORADO, 1889—Continued.

Name of mine.	Value of gold.	Coinage value of silver.	Total value of gold and silver.	Value of lead.	Value of Copper.	Total value.
<i>Summit County—Cont'd.</i>						
Col. Speck .....		\$252. 11	\$252. 11	\$14. 11		\$266. 22
Cashier .....	\$2, 620. 00	2, 068. 68	4, 688. 68			4, 688. 68
Darnell .....	600. 00		600. 00			600. 00
Dolphos .....	60, 340. 00	125, 724. 40	186, 064. 40	36, 556. 00		222, 620. 40
Eldorado Group .....	560. 00	90. 50	650. 50			650. 50
Eclipse .....		39. 00	39. 00	9. 12		48. 12
Felicia Graco .....		2, 910. 00	2, 910. 00	171. 00		3, 081. 00
Frontier .....	90. 00	310. 30	400. 30			400. 30
Fredonia .....		60. 76	60. 76	912. 00		972. 76
Glendale .....		96. 97	96. 97			96. 97
Galena Gulch Placer .....	517. 20		517. 20			517. 20
Gold Run Placer .....	2, 500. 00		2, 500. 00			2, 500. 00
Governor .....		2, 753. 88	2, 753. 88			2, 753. 88
Germania Group .....	132. 00	2, 787. 49	2, 919. 49	635. 36		3, 554. 85
Goyetto .....		47. 00	47. 00			47. 00
Green Mountain Girl .....	259. 80	38. 78	298. 58		\$172. 80	471. 38
Harrison .....		2, 269. 03	2, 269. 03	456. 00		2, 725. 03
Hunkidori* .....						
Hammer .....		500. 00	500. 00	824. 80		1, 324. 80
Iowa Gulch Placer .....	320. 00		320. 00			320. 00
Jumbo M. and M. Co. ....	6, 600. 00	10. 34	6, 610. 34			6, 610. 34
Juniata .....		217. 00	217. 00			217. 00
Juniata .....	4, 000. 00	4, 654. 44	8, 654. 44	3, 952. 00		12, 606. 44
Javenta .....	3, 200. 00	14, 400. 00	17, 600. 00	1, 216. 00		18, 816. 00
Key West .....	1, 400. 00		1, 400. 00			1, 400. 00
Kellogg Group .....	200. 00	930. 89	1, 130. 89	836. 00		1, 966. 89
Luig .....	1, 200. 00	387. 87	1, 587. 87			1, 587. 87
Livonia .....		698. 18	698. 18			698. 18
Lancaster .....		71. 11	71. 11	114. 00		185. 11
Monroe Mining Co. ....		1, 137. 40	1, 137. 40			1, 137. 40
Miami .....	520. 00	3, 361. 54	3, 881. 54	5, 730. 40		9, 611. 94
Morning Star .....	500. 00		500. 00			500. 00
Mohawk .....		775. 75	775. 75	1, 824. 00		2, 599. 75
Magnet .....	350. 00		350. 00			350. 00
Mountain Pride .....	348. 00	259. 06	607. 06	273. 18		880. 24
Morgan .....		33. 62	33. 62	57. 00		90. 62
Milo .....	492. 00	2, 247. 50	2, 739. 50	1, 402. 20		4, 141. 70
New York Placer .....		203, 112. 00	203, 112. 00			203, 112. 00
New York Group .....	300. 00		300. 00			300. 00
Oro Group .....	2, 004. 00	10, 346. 53	12, 350. 53	1, 550. 40		13, 900. 93
Ontario .....	500. 00		500. 00			500. 00
Ohio .....		13. 00	13. 00	68. 40		81. 40
Ouray* .....						
Orphan Boy .....		546. 91	546. 91	62. 10		609. 01
Peabody Placer .....	7, 000. 00		7, 000. 00			7, 000. 00
Pennsylvania Group .....	350. 00	5, 832. 40	6, 182. 40	70. 53		6, 252. 93
Puzzle* .....						
Prize Box .....	2, 300. 00	1, 150. 00	3, 450. 00	1, 748. 00		5, 198. 00
Queen of the West .....		41, 696. 96	41, 696. 96			41, 696. 96
Robinson Consolidated Mining Co* .....						
Ryan Gulch Placer .....	428. 60		428. 60			428. 60



## PRODUCTION BY MINES IN COLORADO, 1889—Continued.

Name of mine.	Value of gold.	Coinage value of silver.	Total value of gold and silver.	Value of lead.	Value of cepper.	Total value.
<i>Summit County—Cent'd.</i>						
Silver Bowl.....		\$5, 171. 75	\$5, 171. 75			\$5, 171. 75
St. Louis Placer.....	\$754. 20	11. 70	765. 90			765. 90
St. Elmo.....		840. 39	840. 39	\$780. 00		1, 620. 39
Selma Mining Co.....		969. 69	969. 69	152. 00		1, 121. 69
Sultana.....	10, 000. 00	5, 000. 00	15, 000. 00	5, 000. 00		20, 000. 00
Silver Crown.....	17. 60	25. 85	43. 45		\$64. 80	108. 25
Snow Bank.....	400. 00	550. 00	950. 00	152. 00		1, 102. 00
Salt Lick Placer.....	2, 378. 41		2, 378. 41			2, 378. 41
Silver Ware.....		646. 46	646. 46	790. 40		1, 436. 86
Sunshine.....		271. 50	271. 50			271. 50
The Iron Mask Mining Co....	960. 60	9, 681. 44	10, 641. 44	10, 579. 20		21, 220. 64
Tiger Extension.....		775. 75	775. 75	434. 60		1, 210. 39
Triangle.....		1, 551. 51	1, 551. 51	114. 00		1, 665. 51
Victoria Mining Co.....	68, 172. 68		68, 172. 68			68, 172. 68
Wire Patch Gold M. and M. Co.....	5, 614. 47	143. 52	5, 757. 99			5, 757. 99
Winning Card.....		290. 91	290. 91			290. 91
Wankegan Group.....		181. 01	181. 01	152. 00		333. 01
Yubadam Placer.....	890. 00	10. 00	900. 00			900. 00
Confidential.....	11, 602. 80	63, 644. 70	75, 247. 50	28, 202. 06		103, 449. 56
Total production, 1889..	208, 523. 76	751, 369. 66	959, 893. 42	117, 906. 20	642. 60	1, 078, 442. 18

## SUMMARY OF OUTPUT, BY COUNTIES, FOR THE CALENDAR YEAR 1889.

County.	Value of gold.	Coinage value of silver.	Total value of gold and silver.	Value of lead.	Value of cepper.	Total value.
Boulder.....	\$322, 537. 16	\$252, 177. 70	\$574, 714. 86	\$1, 976. 00	\$855. 90	\$577, 546. 76
Clear Creek.....	488, 631. 60	2, 559, 588. 17	3, 048, 219. 77	206, 718. 84	28, 535. 66	3, 283, 474. 27
Chaffee.....	280, 734. 40	199, 114. 77	479, 849. 17	71, 420. 23		551, 269. 40
Custer.....	1, 200. 00	104, 890. 13	106, 090. 13	2, 433. 90		108, 524. 03
Dolores.....	72, 863. 00	894, 134. 21	966, 997. 21	19, 437. 00		986, 434. 21
Eagle.....	86, 340. 00	246, 512. 85	332, 852. 85	4, 332. 00		337, 184. 85
Fremont.....	10, 150. 00	31, 340. 60	41, 490. 60	18, 000. 00	1, 654. 20	61, 144. 80
Gilpin.....	986, 856. 40	452, 506. 53	1, 439, 362. 93	54, 475. 30	77, 805. 90	1, 571, 644. 13
Gunnison.....	37, 178. 00	69, 532. 25	106, 710. 25	18, 726. 40	173. 07	125, 609. 72
Hinsdale.....	1, 680. 00	24, 088. 35	25, 768. 35	9, 291. 00	5, 400. 00	40, 459. 35
Lake.....	177, 321. 62	8, 890, 305. 78	9, 067, 627. 40	3, 309, 795. 78	82, 900. 00	12, 460, 323. 18
La Plata.....	4, 180. 00	1, 616. 13	5, 796. 13			5, 796. 13
Ouray.....	24, 750. 00	1, 320, 000. 00	1, 344, 750. 00	181, 500. 00	123, 750. 00	1, 650, 000. 00
Park.....	116, 791. 94	324, 839. 48	441, 631. 42	179, 046. 88	265. 68	620, 943. 98
Pitkin.....		8, 646, 611. 04	8, 646, 611. 04	582, 619. 75		9, 229, 230. 79
Rio Grande.....	33, 480. 00	5, 430. 29	38, 910. 29			38, 910. 29
Summit.....	208, 523. 76	751, 369. 66	959, 893. 42	117, 906. 24	642. 60	1, 078, 442. 26
San Miguel.....	405, 000. 00	1, 050, 000. 00	1, 455, 000. 00	45, 000. 00		1, 500, 000. 00
San Juan.....	378, 000. 00	735, 000. 00	1, 113, 000. 00	345, 000. 00	42, 000. 00	1, 500, 000. 00
Total production 1889.....	3, 636, 217. 88	26, 559, 057. 94	30, 195, 275. 82	5, 167, 679. 32	363, 983. 01	35, 726, 938. 15

VALUE OF DEPOSITS AT THE MINT OF THE UNITED STATES AT DENVER, COLO.,  
DURING THE CALENDAR YEAR 1889.

County, etc.	Gold.	Coinage value of silver.	Total.
Colorado :			
Boulder.....	\$41,008.31	\$322.96	\$41,331.27
Clear Creek.....	70,077.44	946.02	71,023.46
Chaffee.....	8,109.30	77.41	8,186.71
Delta.....	46.33	1.67	48.00
Eagle.....	249.20	9.06	258.26
Fremont.....	135.63	1.38	137.01
Gilpin.....	630,041.78	5,871.21	635,912.99
Gunnison.....	110.32	1.58	111.90
Jefferson.....	82.42	.52	82.94
Lake.....	52,388.44	709.88	53,098.32
La Plata.....	1,400.47	4.79	1,405.26
Montrose.....	1,325.72	11.95	1,337.67
Ouray.....	5,353.97	136.44	5,490.41
Park.....	47,529.98	488.17	48,018.15
Pitkin.....	15,449.35	149.32	15,598.67
Rio Grande.....	467.66	4.07	471.73
Routt.....	8,870.21	244.42	9,114.63
Summit.....	37,914.91	577.07	38,491.98
San Juan.....	15,241.52	328.10	15,569.62
San Miguel.....	35,051.40	777.67	35,829.07
County unknown.....	200,541.67	2,973.27	203,514.94
Total Colorado.....	1,171,396.03	13,636.96	1,185,032.99
Arizona.....	558.25	9.46	567.71
Idaho.....	1,628.20	23.35	1,651.55
Montana.....	1,813.12	14.42	1,827.54
New Mexico.....	66,999.19	576.54	67,575.73
Wyoming.....	5,128.13	38.46	5,166.59
Oregon.....	35,264.66	335.10	35,599.76
Total.....	111,391.55	997.33	112,388.88
United States gold coin.....	2,552.50	-----	2,552.50
Redeposits.....	5,701.70	175.04	5,876.74
Old jewelry.....	9,563.06	241.79	9,804.85
Grand total.....	1,300,604.84	15,051.12	1,315,655.96

Gross weight of deposits for the year .....	ounces..	83,900.49
Net weight of deposits for the year .....	do.....	81,274.69
Net weight of base removed .....	do.....	2,625.80
Average per cent. of base removed.....		.031
Average fineness of the gold .....		.774
Average fineness of the silver.....		.135

## CHAPTER V.

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### *SOUTH DAKOTA.*

By G. E. BAILEY, M. E., RAPID CITY, S. DAK.

The total product of the precious metals in the State of South Dakota for the calendar year 1889 was, approximately, \$3,073,200; gold, \$2,912,600; silver, \$160,600.

The division of the Territory of Dakota into two new States leaves all of the mineral districts producing the precious metals in South Dakota.

No gold or silver is produced outside of the portion known as the Black Hills, and is there confined to the three counties of Lawrence, Pennington, and Custer. There has been a considerable increase in the total product over the two preceding years. Railroad facilities are improving rapidly. The Chicago and Northwestern Railroad, the pioneer track into the Hills, is preparing to build into Lead City, Deadwood, Ruby Basin, and Bald Mountain, from Whitewood, and will give these important districts an outlet to the local reduction and custom works, and to the eastern smelters. The Burlington and Missouri Railroad have let the contract for extending their track from Newcastle, Wyo., to the mining districts around Lead City, and will be able to deliver coal and coke from their mines to the smelters and reduction works by next September. As Pennsylvania coke has been costing over \$30 a ton, delivered at the smelters in the Hills, there is no doubt but that the introduction of this excellent coke, that has to be hauled only 100 miles, will stimulate the smelting industry. The Deadwood Reduction Works have been rebuilt, and will be ready for custom work by June next, treating the ores of the Northern Hills by chlorination. The experimental pyrite-process smelter has proven a success, and a large plant ordered for custom work. Extensive tests have been made in concentrating its rich sulphurets in the tailings from the large mills with good results. There is greater activity than ever in the development of properties.

The coming year promises a decided advance in methods of working its ores, increased facilities in securing supplies, and an increase of the product of gold and silver.



DEPOSITS OF GOLD AND SILVER FROM SOUTH DAKOTA AT THE UNITED STATES  
ASSAY OFFICE AT NEW YORK, 1889.

Mine.	Gold.		Silver.		Total.
	Standard ounces.	Value.	Standard ounces.	Coining value.	
Caledonia.....	15,976.852	\$297,243.77	3,778.87	\$4,885.70	\$302,129.47
Deadwood-Terra.....	32,696.005	608,186.12	6,457.82	8,349.32	616,535.44
Highland.....	37,884.055	704,819.62	7,803.66	10,060.35	714,908.97
Homestake.....	52,789.162	982,123.92	9,774.16	12,637.01	994,760.93
Uncle Sam.....	2,558.895	47,607.35	456.45	590.14	48,197.49
Unknown.....	8,612.693	160,236.15	706.63	913.60	161,149.75
Total.....	150,511.662	2,800,216.93	28,977.59	37,465.12	2,837,682.05

DEPOSITS FROM SOUTH DAKOTA AT THE UNITED STATES MINT AT PHILADELPHIA,  
1889.

Metal.	Standard ounces.	Coining value.	Total.
Gold.....	893.505	\$16,623.35	\$16,709.47
Silver.....	66.61	86.12	

## PRODUCTION BY MINES IN SOUTH DAKOTA IN 1889.

Mine.	Gold.		Silver.		Total.
	Standard ounces.	Value.	Standard ounces.	Coining value.	
Caledonia.....	15,976.852	\$297,243.77	3,778.87	\$4,885.70	\$302,129.47
Deadwood-Terra.....	32,696.005	608,186.12	6,457.82	8,349.32	616,535.44
Highland.....	37,884.055	704,819.62	7,803.66	10,089.35	714,908.97
Homestake.....	52,789.162	982,123.92	9,774.16	12,637.01	994,760.93
Uncle Sam.....	2,558.895	47,607.35	456.45	590.14	48,197.49
Herseshoe.....	50.000	930.23	1,600.00	2,068.64	2,998.87
Moniter.....	4,355.756	81,037.10	.....	.....	81,037.10
Grizzly Bear.....	838.530	15,600.52	.....	.....	15,600.52
Four Mile.....	19.620	365.62	.....	.....	365.62
Total.....	147,162.875	2,737,914.25	29,870.96	38,620.16	2,776,534.41

## PRODUCTION OF PLACER GOLD IN SOUTH DAKOTA, 1889.

[Estimated from bank purchases and private reports by G. E. Bailey and F. J. Cress.]

Mining district.	County.	Value.
Rockerville.....	Pennington ..	\$9,000
Hayward.....	..de .....	10,000
Castle Creek.....	..de .....	3,000
Rapid Creek.....	..de .....	4,000
Spring Creek.....	..do .....	200
Nigger Hill.....	Lawrence.....	3,000
Whitewood.....	..de .....	3,000
Custer County.....	Custer.....	3,500
Total.....	.....	35,700

TOTAL PRODUCT OF THE PRECIOUS METALS IN SOUTH DAKOTA, 1889.

Source of information.	Gold.	Silver (coin- ing value).	Total.
United States mints and assay offices .....	\$2, 816, 840	\$37, 551	\$2, 854, 391
Private refineries .....	45, 785	123, 112	168, 897
Banks, mines and confidential information not included in the above .....	50, 000	-----	50, 000
Total .....	2, 912, 625	160, 663	3, 073, 288

Messrs. Wells, Fargo & Co. report the transportation from South Dakota during the last four years as follows :

Years.	Gold.	Silver.	Total.
1886 .....	\$2, 405, 250	\$251, 437	\$2, 656, 687
1887 .....	2, 385, 320	473, 285	2, 858, 605
1888 .....	2, 390, 716	453, 216	2, 843, 932
1889 .....	3, 407, 177	-----	3, 407, 177

PRODUCTION OF THE LEADING MINES OF SOUTH DAKOTA FOR THE LAST SIX YEARS.

Mines.	1884.	1885.	1886.	1887.	1888.	1889.
Homestake .....	\$1, 255, 790	\$1, 307, 039	\$1, 030, 758	\$936, 282	\$919, 886	\$994, 760
Father De Smet .....	474, 553	381, 697	73, 069	-----	-----	-----
Deadwood-Terra .....	485, 401	441, 491	589, 657	637, 326	653, 790	616, 535
Highland .....	511, 421	416, 687	518, 387	409, 781	528, 830	714, 908
Caledonia .....	-----	-----	200, 227	281, 391	299, 579	302, 129
Iron Hill .....	-----	13, 394	372, 120	259, 942	15, 000	-----
Monitor .....	-----	-----	-----	-----	7, 382	81, 037
Total .....	2, 727, 165	2, 560, 306	2, 784, 218	2, 524, 722	2, 424, 467	2, 709, 369

ANNUAL PRODUCTION OF GOLD IN SOUTH DAKOTA, 1881-'89.

Years.	Estimated by the Di- rector of the Mint.	Deposited at the United States mints and assay offices.	Years.	Estimated by the Di- rector of the Mint.	Deposited at the United States mints and assay offices.
1881 .....	\$4, 000, 000	\$3, 474, 837	1886 .....	\$2, 700, 000	\$2, 522, 408
1882 .....	3, 300, 000	3, 141, 737	1887 .....	2, 400, 000	2, 402, 333
1883 .....	3, 200, 000	3, 075, 911	1888 .....	2, 600, 000	2, 484, 477
1884 .....	3, 300, 000	3, 010, 730	1889 .....	2, 900, 000	2, 816, 840
1885 .....	3, 200, 000	2, 865, 166			

ANNUAL PRODUCTION OF SILVER IN SOUTH DAKOTA, 1881-'89.

Years.	Coining value as esti- mated by the Director of the Mint.	Years	Coining value as esti- mated by the Director of the Mint.
1881.....	\$70, 000	1886.....	\$425, 000
1882.....	175, 000	1887.....	540, 000
1883.....	150, 000	1888.....	100, 000
1884.....	150, 000	1889.....	64, 646
1885.....	100, 000		

DIVIDENDS DECLARED BY LEADING MINES DURING 1889, AND THREE PRECEDING YEARS, WITH TOTAL AMOUNT PAID FROM THE FIRST DIVIDEND TO THE END OF 1889.

Mining company.	1886.	1887.	1888.	1889.	Total divi- dends paid.
Homestake .....	\$600, 000	\$300, 000	\$300, 000	\$187, 500	\$4, 481, 250
Deadwood-Terra.....		100, 000			1, 000, 000
Caledonia.....	20, 000		16, 000	80, 000	136, 000
Iron Hill.....	112, 500	43, 750			156, 250
Monitor .....				37, 500	37, 500
Total .....	732, 500	443, 750	316, 000	305, 000	5, 811, 000



## CHAPTER VI

### IDAHO.

By JOHN W. CUNNINGHAM,

*Assayer in charge United States Assay Office at Boise City, Idaho.*

The product of gold and silver from the mines of Idaho, during the calendar year 1889, is estimated to have been:

Metals.	Fine ounces.	Coining Value.
Gold.....	99,445	\$2,055,708
Silver.....	3,434,331	4,440,347
Total .....		6,496,055

The following statements, showing the value of the production of gold and silver in Idaho during the year 1889, are based mainly upon the reports of persons in charge of mines and sampling works, and from banks and purchasers. Where reports could not be obtained, estimates have been made upon information furnished by well-informed persons residing in the several districts.

The increase shown over the yield of 1888 was principally in the galena districts of Cœur d'Alene and Wood River, and in the quartz mines of Boise and Owyhee Counties.

Improved transportation facilities and the completion of several new concentrating mills naturally augmented the production in the first-named district, while, in the Wood River district, the larger mines show a heavier output, and many smaller properties have been worked with better success than formerly.

The increase in the production of Boise County, like that of Owyhee, is due to the heavier production of one mine.

A large portion of the value of the product of the galena mines is in lead. This value for the year 1889 was about \$4,000,000. The ore from these mines is shipped to reduction works outside of the Territory. In most cases, however, it is concentrated before shipment. I have reports show-

ing that shipments were made to the following-named points during the past year: Helena and Great Falls, Mont.; Omaha, Nebr.; Denver, Colo.; Kansas City, Mo.; Salt Lake City, Utah, and Aurora, Ill.

Owing to the scarcity of water, the placer mines throughout the Territory yielded less, during the year 1889, than half their usual product.

For purposes of comparison with former reports, it should be borne in mind that the territory now embraced in the counties of Elmore and Logan formerly belonged to Alturas County.

The development of the mineral resources of Idaho progresses steadily, and the Territory has at no time boasted a greater number of producing mines than now.

GOLD AND SILVER BULLION PRODUCED IN THE TERRITORY OF IDAHO, DEPOSITED AT GOVERNMENT INSTITUTIONS DURING THE CALENDAR YEAR 1889.

Institutions.	Gold.		Silver.		Total value.
	Fine ounces.	Value.	Fine ounces.	Coining value.	
Philadelphia .....	176.378	\$3,646.06	17.20	\$22.24	\$3,668.30
San Francisco .....	7,501.690	155,073.69	2,774.15	3,586.78	158,660.47
New York .....	3,705.327	76,595.91	31,989.60	41,360.29	117,956.20
Denver .....	78.764	1,628.20	24.40	31.60	1,659.80
Boisé .....	23,106.797	477,659.89	20,558.35	26,580.49	504,240.38
Helena .....	7,438.439	153,766.20	1,397.24	1,806.53	155,572.73
St. Louis .....	386.045	7,980.26	68.13	88.09	8,068.35
Total .....	42,393.440	876,350.21	56,829.07	73,476.02	949,826.23

PRODUCTION OF GOLD AND SILVER IN IDAHO, 1889.

[Reported and estimated.]

Counties.	Gold.		Silver.		Total value.
	Fine ounces.	Value.	Fine ounces.	Coining value.	
Ada .....	160	\$3,307	50	\$65	\$3,372
Alturas .....	1,382	28,568	386,302	499,461	528,029
Bingham .....	1,000	20,672	30	39	20,711
Boisé .....	13,280	274,522	113,376	146,587	421,109
Cassia .....	600	12,403	15,020	19,420	31,823
Custer .....	14,000	289,405	900,000	1,163,636	1,453,041
Elmore .....	14,330	296,227	21,665	28,012	324,239
Idaho .....	11,500	237,726	9,282	12,001	249,727
Kootenai .....	1,500	31,008	10,000	12,929	43,937
Lomhi .....	19,000	392,765	100,000	129,292	522,057
Logan .....	1,500	31,008	444,998	575,351	606,359
Owyhee .....	12,260	253,436	338,071	437,102	690,538
Shoshone .....	8,433	174,325	1,095,265	1,416,100	1,590,425
Washington .....	500	10,336	272	352	10,688
Total .....	99,445	2,055,708	3,434,331	4,440,347	6,496,055

## PRODUCTION OF GOLD AND SILVER IN IDAHO, 1889.

[Reported.]

Counties.	Authority.	Gold.		Silver.		Total valuo.
		Fine ounces.	Value.	Fine ounces.	Coining valuo.	
Ada .....	U. S. assay office, Boisé City, Idaho.	160	\$3, 307	50	\$65	\$3, 372
Alturas .....	U. S. assay office, Boisé City, Idaho.	533	11, 018	260	336	11, 354
	Mine owners, purchasers, and ship- pers.	849	17, 550	386, 042	499, 114	516, 664
Bingham .....	U. S. assay office, Boisé City, Idaho.	79	1, 633	2	3	1, 636
Boisé .....	U. S. assay office, Boisé City, Idaho.	5, 750	118, 863	1, 286	1, 663	120, 526
	Mine owners, purchasers, and ship- pers.	6, 330	130, 853	112, 090	144, 921	275, 774
Cassia .....	Mine owners, purchasers, and ship- pers.	363	7, 504	15, 000	19, 393	26, 897
Custer .....	U. S. assay office, Boisé City, Idaho.	71	1, 468	8	10	1, 478
Elmore .....	U. S. assay office, Boisé City, Idaho.	8, 113	167, 710	3, 233	4, 180	171, 890
	Mine owners, purchasers, and ship- pers.	6, 217	128, 517	18, 432	23, 830	152, 347
Idaho .....	U. S. assay office, Boisé City, Idaho.	1, 184	24, 475	454	587	25, 062
	Mine owners, purchasers, and ship- pers.	8, 041	166, 222	8, 828	11, 414	177, 636
Lemhi .....	U. S. assay office, Boisé City, Idaho.	3, 281	67, 824	628	812	68, 636
Logan .....	U. S. assay office, Boisé City, Idaho.	975	20, 155	72	93	20, 248
	Mine owners, purchasers, and ship- pers.	.....	.....	444, 926	575, 245	575, 245
Owyhee .....	U. S. assay office, Boisé City, Idaho.	2, 665	55, 090	14, 293	18, 479	73, 569
	Mine owners, purchasers, and ship- pers.	9, 595	198, 346	323, 778	418, 613	616, 959
Shoshone .....	Mine owners, purchasers, and ship- pers.	8, 433	174, 325	1, 095, 265	1, 416, 068	1, 590, 393
Washington ...	U. S. assay office, Boisé City, Idaho.	296	6, 119	272	352	6, 471
	Total .....	62, 935	1, 300, 979	2, 424, 919	3, 135, 178	4, 436, 157



## CHAPTER VII.

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### MONTANA.

By SPRUILLE BRADEN,

*Assayer-in-charge, U. S. Assay Office, Helena, Mont*

A number of circumstances co-operated to reduce the production of the precious metals, during the year 1889. Early in the spring, the lower smelter of the Anaconda Company was destroyed by fire; later in the year, a fire occurred in the mine at Butte, which has prevented operations to the present time. The Blue Bird, which has been a reliable producer for years past, became involved in litigation, and during the last months of the year suspended operations.

Again, the contributions of placer mines have been smaller than ever before. This is partly explained by the fact that the yield of gold from auriferous gravel is steadily diminishing, but, more immediately, by the unparalleled drought which greatly shortened the season during which drifting could be prosecuted. On the other hand, the construction of two large custom smelters, that of the Helena and Livingston Smelting and Reduction Company, at Helena, and that of the Montana Smelting Company, at Great Falls, gave a considerable impetus to the mining industry, by affording to owners of limited capital, facilities for realizing readily on their ores and so prosecuting the development of prospects. Recently, differences have arisen between the companies mentioned and the railways, which have resulted in the closing down of both of the smelters. This condition, however, can scarcely be of long duration.

The indications are abundant that the current year will be one of unprecedented activity in development and production. Among these the most significant is the construction of railroads to mineral regions where operations have been greatly retarded by the lack of such facilities. The Northern Pacific Railroad Company is building a branch from Missoula to the Cœur d'Alenes, in northern Idaho, to reach a district of incalculable resources in gold and silver. The Belt Mountain branch of the great Northern railway system is in course of construction from Great Falls to tap the Neihart and Barker districts, which are known to be rich in silver-bearing galena, but which have not been highly productive in the past, owing to the almost prohibitory cost of transportation.

The Boston and Montana Consolidated Copper and Silver Mining Company have purchased a site near Great Falls, and during the coming season will erect one of the largest smelting plants in the United States for the reduction of the ores from their Butte mine. This will aid to materially increase the production during the ensuing year.

Montana's entry into the sisterhood of States has made the so-called "alien law" a dead-letter. This admits of the investment of foreign capital in various enterprises, where the title to realty is involved. The continued success of the Drum Lummon mine has enabled promoters to place properties upon the London market with comparative ease, and, during the first three months of statehood, two good mines, viz. the Elkhorn and Minah, have been sold to English companies. Both properties have been large producers in the past.

PRODUCTION OF GOLD AND SILVER IN MONTANA, 1889.

Name.	Gold.	Silver.	Total value.
<i>Beaverhead County.</i>			
	<i>Ounces.</i>	<i>Ounces.</i>	
Hecla Consolidated Mining Company.....	1, 098. 617	579, 430. 67	.....
Confidential replies, sundry producers, and ores shipped.....	660. 000	83, 050. 00	.....
Total .....	1, 758. 617	662, 480. 67	\$892, 871. 87
<i>Cascade County.</i>			
Montana Smelting Company * .....	5, 359. 000	603, 930. 55	.....
Sundry producers.....	250. 000		.....
Total .....	5, 609. 000	603, 930. 55	896, 759. 84
<i>Deer Lodge County.</i>			
Bi-metallic Mining Company † .....			.....
Combination Mining and Milling Company * .....	154. 640	97, 145. 00	.....
Granite Mountain Mining Company .....	6, 638. 345	3, 879, 258. 94	.....
Hepe Mining Company .....		103, 171. 40	.....
Confidential replies, sundry producers, and ores shipped.....	3, 202. 780	1, 256, 568. 49	.....
Total .....	9, 995. 765	5, 336, 143. 83	7, 105, 712. 82
<i>Fergus County.</i>			
Sundry producers and ores shipped.....	3, 063. 381	4, 558. 59	69, 213. 88
<i>Gallatin County.</i>			
Sundry producers and ores shipped.....	200. 000	20, 000. 00	29, 592. 00
<i>Jefferson County</i>			
Elkhorn Mining Company.....	222. 326	389, 353. 81	.....
Sundry producers and ores shipped * .....	300. 000	75, 000. 00	.....
Total .....	522. 326	464, 353. 81	611, 159. 52
<i>Lewis and Clark County.</i>			
Jay Gould Mining Company † .....			.....
Helena and Livingston Smelting and Reduction Company * ..	20, 123. 770	1, 100, 503. 20	.....
Montana Company, limited .....	37, 944. 000	397, 987. 00	.....
Confidential replies, sundry producers, and ores shipped .....	14, 136. 800	77, 437. 75	.....
Total .....	72, 204. 570	1, 575, 927. 95	3, 529, 985. 71

\* Not otherwise enumerated.

† Confidential replies.

## PRODUCTION OF GOLD AND SILVER IN MONTANA, 1889—Continued.

Namo.	Gold.	Silver.	Total Value.
<i>Madison County.</i>	<i>Ounces.</i>	<i>Ounces.</i>	
Sundry producers and ores shipped.....	8,750.000	25,000.00	\$213,185.00
<i>Missoula County.</i>			
Sundry producers and ores shipped.....	250.000	5,000.00	11,632.00
<i>Meagher County.</i>			
Cumbarland Mining and Smolting Company, and Honsley Smelting Company .....	16.550	36,355.92	.....
Sundry producers and ores shipped.....	250.000	76,459.79	.....
Total .....	266.550	112,815.71	151,369.02
<i>Park County.</i>			
Sundry producers and ores shipped.....	175.000	5,000.00	10,081.75
<i>Silver Bow County.</i>			
Alice Gold and Silver Mining Company.....	1,620.000	522,855.00	.....
Anaconda Gold and Silver Mining Company † .....			.....
Blue Bird Mining Company (limited) † .....			.....
Boston and Montana Consolidated Copper and Silver Mining Company .....	710.205	270,647.25	.....
Butte and Boston Mining Company .....	974.000	244,087.00	.....
Butte Reduction Company † .....			.....
Colorado Smelting and Mining Company * .....	3,061.000	795,315.00	.....
Lexington Mining Company .....	6,876.000	640,937.00	.....
Moulton Mining Company † .....			.....
Parrot Silver and Copper Company .....	2,709.000	611,922.00	.....
W. A. Clark & Bro. † .....			.....
Confidential replies .....	14,702.120	3,299,275.50	.....
Sundry producers and ores shipped .....	1,000.000	175,000.00	.....
Total .....	31,652.325	6,560,038.75	9,135,127.66
Grand total.....			22,657,691.07

\*Not otherwise enumerated.

†Confidential replies.

## SUMMARY BY COUNTIES.

County.	Gold.	Silver.	Total value.
	<i>Fine ounces.</i>	<i>Fine ounces.</i>	
Beaverhead.....	1,758.617	662,480.67	.....
Cascado.....	5,609.000	603,930.55	.....
Choteau .....			.....
Doer Lodge .....	9,995.765	5,336,143.83	.....
Forgus .....	3,063.381	4,558.59	.....
Gallatin .....	200.000	20,000.00	.....
Jefferson .....	522.326	464,353.81	.....
Lewis and Clarke.....	72,204.570	1,575,927.95	.....
Madison .....	8,750.000	25,000.00	.....
Missoula.....	250.000	5,000.00	.....
Meagher.....	266.550	112,815.71	.....
Park .....	175.000	5,000.00	.....
Silver Bow .....	31,652.325	6,560,038.75	.....
Total.....	134,447.534	15,375,249.86	\$22,657,691.07



TOTAL SUMMARY.

Disposition.	Gold.		Silver.		Total value.
	Ounces.	Value at \$20.67.	Ounces.	Value at \$1.29.29.	
Counties .....	134, 447. 534	\$2, 779, 030. 53	15, 375, 249. 86	\$19, 878, 660. 54	.....
Deposited at—					
Philadelphia mint* .....	36. 708	758. 75	15. 64	20. 22	.....
San Francisco mint*.....	1, 103. 292	22, 804. 11	119. 52	154. 53	.....
Denver mint*.....	87. 709	1, 812. 95	15. 27	19. 78	.....
New York assay office*..	10, 402. 635	215, 022. 47	107, 281. 45	138, 704. 19	.....
Helena assay office* .....	37, 473. 682	774, 581. 01	15, 710. 39	21, 311. 96	.....
Total production.....	183, 551. 560	3, 794, 009. 82	15, 498, 392. 13	20, 038, 871. 22	\$23, 832, 881. 04

\* Not enumerated elsewhere.

REDUCTION OF THE PRECIOUS METALS IN MONTANA.

The methods employed in Montana in the reduction of ores may be placed in two classes, milling and smelting. The former is employed for ores that are comparatively free from the admixture of baser metals, and the latter for ores that are associated with metals that render their reduction difficult by any of the simpler processes.

Milling may be divided into two principal classes, free-milling and chloridizing milling. The first is employed for decomposed surface ores, that is, ores that are found above permanent water level in the mines, and which have been subjected to the natural oxidizing influences of the air and surface water percolating through the ground. Ores found below water level have their metallic contents combined with sulphur, which must be eliminated before the gold and silver can be obtained. Smelting is used for the reduction of the ores of copper and lead in conjunction with the base gold and silver ores.

FREE MILLING SILVER.

The first and simplest operation is the reduction of free ores, and is known generally as free milling. The ores as they are brought from the mine are passed through rock-breakers, which reduce them to small lumps; from the rock-breakers they are fed into the mill, which consists of a series of vertical stamps alternately raised by revolving shaft, and allowed to fall upon the ore, crushing it to the proper degree of fineness. The cast-iron boxes, or mortars, in which the stamps fall and where the ore is crushed, are provided with wire screens which permit only the fine particles of ore to pass through. Water is kept running through these mortars and splashes out at each fall of the stamp, carrying a portion of the pulverized ore with it.

From the stamps, or batteries as they are termed, this wet pulp is run into settling tanks, where the ore settles to the bottom and the water is run off. The precious metals in the pulp are collected by amalga-

tion with mercury, which is the next operation. The pans in which the amalgamations are carried on are circular wooden tanks provided with cast-iron bottoms, and containing a vertical revolving shaft which carries at its lower end arms to which are attached flat pieces of iron known as mullers, and which revolve with the shaft; the ore or pulp is shoveled from the settling tanks into the pans, in which sufficient water is used to keep the mixture quite liquid; a small amount of quicksilver is put into the pans and the whole mass is kept stirred and thoroughly mixed by the revolving mullers. In this way the quicksilver is brought into contact with all the ore and amalgamated with the gold and silver.

It is gradually drawn off through an inverted siphon tube and collected in a small iron pot outside the pan. The charge of ore from which the metals have been extracted is run off from the pan, which is then ready for a fresh one. The quicksilver amalgam is strained through a coarse sack, the thickest part remaining, which is retorted, the mercury being driven off as vapor, condensed and saved, and the gold and silver remaining as a spongy porous mass in the retort, which is collected and melted into bars.

#### CHLORIDIZING MILL.

In the chloridizing or base ore mill, it is necessary to decompose the combinations of sulphur and silver in order to get the latter into a form which will amalgamate, and this is attained by roasting the ore with a certain proportion of common salt which decomposes the sulphides, forming in their stead gold and a chloride of silver which the quicksilver will decompose, amalgamating with the metals.

After passing through the rock breaker, the ore goes into a revolving cylindrical dryer, at one end of which is a fire-box or furnace the flames draw through the cylinder, drying the ore.

From the dryer, the ore is fed through the stamps, which resemble those used in the free mill, except that the crushing is done dry. The crushed ore passes through the screens in the form of a fine powder, and is then ready for the chloridizing furnace.

The salt is sometimes added to the ore in the rock-breaker, passing with it through the dryer and stamps; in other mills it is crushed in a set of stamps separately, and mixes with the ore before going through the furnace. There are two principal types of furnace in use; one a revolving cylinder, and the other a vertical furnace. In the revolving one, the fire-box is built at one end, the flame drawing through it into a large brick chamber known as the dust-chamber. The dry mixture of salt and ore is put into the furnace, which is then started revolving at a low rate of speed. This brings fresh surfaces of ore constantly into contact with the flame, which converts the sulphides into chlorides of silver and gold.



In the vertical type (Stedefeldt) furnace, the ore is fed constantly and gradually in at the top, falling to the bottom in contact with the flame, thereby accomplishing the chloridation, the flame passing into and through the dust-chamber.

The amount of salt used varies considerably with the character of the ore, averaging, perhaps, 12 per cent. and running under and over that proportion as required.

From the furnace, it is dumped on the cooling floor, a large, shallow pit, in which it is allowed to cool.

In both these furnaces a portion of the pulp is drawn through as fine dust, which is collected in the dust-chambers, and is drawn from them and mixed with the charge for the pans. The subsequent operation of amalgamation is similar to that employed in free mills.

This operation will save an average of 90 per cent. of the assay value of the silver and about 60 per cent. of the gold; but, as it is employed almost exclusively for ores that are valuable principally for their silver contents, the small saving of gold is not of vital consequence.

#### GOLD MILLS.

Free gold ores amalgamate very readily, and the mills for working them differ from the silver mills principally in the process after the pulp leaves the stamps.

The crushing is done wet; the pulp passes through the screens and runs over silver-plated copper plates which have a prepared surface of quicksilver which collects the gold by amalgamation.

In most of the ores, the gold is only partially free, being in such state that but a portion will amalgamate. It is customary then to pass the tailings over some form of concentrating table or vanner, where the richer metallic particles are saved. The resulting concentrates are then desulphurized and chlorinated, or sold to the smelters.

A large proportion of the gold and silver products of this State is derived from the copper and lead ores. All the copper produced here contains both silver and gold, whether in the form of metallic copper or matte, and the lead is rich in both metals.

The copper ores of Butte City are rich in silver and gold, carrying from 5 ounces upward in silver, and from one-twentieth to one-tenth of the value of the precious metals in gold. The lead ores carry a proportionate amount of silver and gold.

#### SMEETING.

The greater proportion of the copper ores being low grade, are treated by the wet process of mechanical separation or concentration, which eliminates the gangue or valueless material. The ore is first crushed, either by some form of crusher and rolls, or by steam stamps, until the coarsest particles will pass through a screen, the holes of which are



punched three-sixteenths of an inch in diameter, the ore having been mixed with water during the crushing process, conducted through a hydraulic separator, or over-screens of varying degrees of fineness, thus dividing it according to the sizes of the ore grains. The coarser sizes are treated on jigs, machines which by means of plungers force water intermittently through the mass of ore as it passes over them at sufficient pressure to carry away the lighter and valueless constituents or tailings, while permitting the heavy minerals or concentrates to work their way to the bottom. The very fine ore or slimes is allowed to settle in tanks, and is then treated on some one of the various percussion, shaking, or revolving tables (buddles), which, like the jigs, take advantage of the difference in specific gravity to effect the desired separation.

The concentrates are now ready for the smelter, where the first step consists in roasting or calcining, in order to eliminate the greater part of the sulphur. There are various styles of furnace for this purpose those most common being either a long low brick furnace, with fire-box at one end and flue at the other, the ore being placed at first in the flue end, and gradually worked toward the fire by means of long iron hoes worked through doors placed at intervals on either side of the furnace, or revolving cylinders placed horizontally, the flame passing through lengthwise, the ore rolling and bringing fresh surfaces to the action of the flame as the cylinder slowly revolves.

Higher grade ores which are sufficiently rich to smelt without previous concentration are frequently roasted in stalls or in heaps, being placed upon a layer of wood on the ground in the open air; the sulphur in the ore is sufficient to sustain combustion and gradually burns out. The object of the desulphurizing process is as follows: copper combines with sulphur in a subsequent smelting process in the proportion of four parts of copper to one of sulphur, therefore it is necessary to have only sufficient sulphur to unite with the copper with a slight excess which will unite with a portion of iron in the ore, this latter being regulated by the grade of product desired. After roasting, the ore is smelted in either blast or reverberatory furnaces, the practice varying from the conditions, relative cost of fuels, etc. When coarse ore preponderates, blast furnaces are frequently used, while fine ore is invariably treated in reverberatories. In either case, the ore is subjected to an intense heat, the copper gradually uniting with the necessary sulphur, and the remainder of the sulphur uniting with the iron. These sulphides of copper and iron or "matte" sink to the bottom of the furnace, carrying with them gold and silver, if present, while the remaining iron, together with the zinc, lime, and any other bases combine with the quartz to form silicates, which float on the surface. This "slag" which should be almost entirely free from copper and the precious metals, and which is therefore worthless, is drawn off, and after cooling is broken up and carted away. The "matte" which is tapped at the bottom of the

furnace usually carries from 50 to 55 per cent. of copper, if from a blast furnace, and from 60 to 65 per cent. if a reverberatory product, the remaining constituents being mainly iron and sulphur. By far the greater portion of the copper produced in Montana is shipped in the form of "matte" to refineries in the East or abroad, for reduction to fine copper and separation of the gold and silver therefrom. Latterly quite an amount of matte has been treated by the Manhes' process, which desulphurizes and refines the matte to about 99 per cent. copper, which is then shipped East and refined by the electrolytic method.

The treatment of lead very closely resembles in principle the methods employed in copper smelting as regards concentration, roasting (or calcining), the final operation of smelting being conducted in a blast furnace which reduces the ore to metallic lead, containing gold and silver.

This lead bullion is all shipped to eastern points where its precious metals are extracted and the lead refined.

## CHAPTER VIII.

### NEVADA.

By S. C. WRIGHT,

*Superintendent United States Mint, Carson, Nev.*

PRODUCT OF NEVADA, 1889.

[Estimate by Mr. Wright.]

Counties.	Gold.	Silver (coining value).	Total.
Churchill .....	\$5,000	\$7,000	\$12,000
Douglas .....	1,597	274	1,871
Eureka .....	347,000	798,000	1,145,000
Esmeralda .....	152,000	398,000	550,000
Elko .....	150,000	605,000	755,000
Humboldt .....	10,000	120,000	130,000
Lander .....	10,020	240,506	250,526
Lincoln .....	9,000	91,000	100,000
Lyon .....	70,100	80,073	150,173
Nye .....	.....	150,469	150,469
Ormsby .....	12,100	13,250	25,350
Storey .....	2,301,600	3,696,060	5,997,660
White Pine .....	100,000	160,000	260,000
Washoe .....	18,250	1,223	19,473
Total .....	3,186,667	6,360,855	9,547,522



## PRODUCT OF GOLD AND SILVER

[Reported by county auditors to state

County.	Name of mine.	Ore extracted.	
		Tons.	Lbs.
Churchill .....	Golden Crown .....	200	.....
Eureka .....	Austin .....	5	862
	Adelphia .....	14	1,058
	Banner .....	2	1,365
	Bullwhacker .....	250	280
	Benjamin Harrison .....	22	872
	Barker, Spencer & Co .....	6	441
	Bald Eagle .....	2	684
	Climax .....	129	1,420
	Congress .....	3	300
	California .....	20	720
	Contention .....	5	494
	Cortez, limited .....	8,055	.....
	Dead Broke .....	52	1,270
	Dug Out .....	12	628
	Diamond .....	350	.....
	Eureka Consolidated Mining Company .....	2,096	282
	Eureka Star .....	22	572
	East Oakland .....	2	100
	Ethel .....	13	740
	Eldorado .....	21	1,315
	Eureka Tunnel .....	57	1,319
	Geddes and Bertrand .....	233	1,186
	Great Republic and Troy .....	16	1,940
	General Lee .....	2	1,215
	Hamburg .....	292	720
	Huguenot .....	19	142
	Idaho .....	14	1,155
	Iron Clad .....	7	1,700
	Jackson Mining Company .....	1,618	758
	Kentuck .....	9	637
	Lord Byron .....	352	971
	Little Rosa .....	4	510
	Lincoln .....	12	1,440
	Leonie .....	18	250
	Mortimer .....	108	30
	Macon City .....	14	1,165
	Mineral Hill .....	12	1,192
	Marguerite .....	3	377
	Needle .....	8	1,491
	North Star .....	3	1,695
	Palisade .....	10	243
	Phoenix .....	95	510
	Paul Pry .....	8	1,647
	Prospect Mountain tunnel .....	251	137
	Red Jacket .....	9	1,645
	Ruby Dunderberg Consolidated Mining Company of Nevada .....	840	1,296
	Richmond Mining Company of Nevada .....	1,763	.....
	Seventy Six .....	2	923

## IN NEVADA FOR THE YEAR 1889.

comptroller for revenue purposes.]

Gross yield.	Cost of—		Cost of reduction.		Total cost.
	Mining.	Transportation.	Free milling.	Freiberg process.	
\$12,000.00	\$8,000.00	\$400.00	-----	\$4,000.00	\$12,400.00
1,076.80	527.00	65.45	-----	52.28	644.73
365.58	250.00	32.00	-----	167.96	449.96
84.89	60.00	5.00	-----	25.22	90.22
3,013.83	1,750.00	273.00	-----	1,163.64	3,186.64
4,565.86	4,454.35	516.00	-----	-----	4,970.35
975.61	774.00	69.00	-----	64.55	907.55
50.60	27.00	4.00	-----	23.43	51.43
3,434.96	2,000.00	163.00	-----	1,472.64	3,635.64
1,035.00	1,000.00	77.00	-----	-----	1,077.00
518.38	300.00	35.00	-----	230.53	565.53
219.55	200.00	21.00	-----	52.47	273.47
370,109.34	125,866.65	8,055.00	-----	123,473.34	257,394.99
881.91	1,000.00	318.40	-----	-----	1,318.40
436.90	350.00	58.00	-----	120.88	528.88
12,250.00	14,000.00	1,000.00	-----	-----	15,000.00
64,981.90	31,347.15	1,434.75	-----	23,700.00	56,481.90
1,502.04	1,048.26	67.00	-----	178.28	1,293.54
105.26	100.00	4.00	-----	24.60	128.60
233.90	200.00	40.00	-----	133.70	373.70
465.89	200.00	65.00	-----	216.57	481.57
1,357.32	720.50	72.00	-----	627.97	1,420.47
5,096.47	3,250.32	260.00	-----	1,215.93	4,726.25
1,362.34	1,260.00	94.71	-----	195.22	1,549.93
118.46	100.00	5.00	-----	25.81	130.81
9,321.87	7,290.00	360.00	-----	1,739.22	9,389.22
1,020.59	694.08	58.00	-----	190.71	942.79
326.47	245.00	25.00	-----	142.32	412.32
649.86	600.00	35.00	-----	94.20	729.20
43,190.04	30,285.89	1,631.00	-----	9,745.52	41,662.41
597.20	525.00	34.00	-----	79.97	638.97
17,493.94	12,896.60	935.00	-----	3,812.82	17,644.42
55.20	25.00	6.00	-----	40.00	71.00
509.90	400.00	53.00	-----	127.20	580.20
569.50	450.00	31.00	-----	187.20	668.20
2,849.72	1,860.00	139.50	-----	1,031.01	3,030.51
541.62	400.00	27.00	-----	164.48	591.48
1,778.62	1,137.41	59.75	-----	143.05	1,340.21
1,207.61	952.54	6.00	-----	31.88	990.42
440.05	450.00	25.00	-----	92.00	567.00
208.88	200.00	11.00	-----	38.09	249.09
497.75	500.00	92.42	-----	33.78	626.20
2,959.83	2,380.00	78.00	-----	621.31	3,079.31
425.45	370.00	10.00	-----	93.51	473.51
8,914.23	5,293.13	680.00	-----	1,916.36	7,889.49
685.71	577.75	64.75	-----	59.62	702.12
28,681.07	22,518.80	1,163.00	-----	6,334.27	30,016.07
52,452.05	21,829.89	1,906.60	-----	23,199.67	46,936.16
160.86	155.00	6.00	-----	24.51	185.51

## PRODUCT OF GOLD AND SILVER IN NEVADA

County.	Name of mine.	Ore extracted.	
		Tons.	Lbs.
Eureka .....	Silver Lick .....	131	909
	St. Peter's Gold and Silver Mining Company .....	3,950	1,060
	Spencer.....	7	1,251
	Star.....	5	1,397
	Silver Reece.....	1	330
	Silver Conner.....	125	1,511
	Water Jacket .....	1	603
	Whip-poor-will .....	18	363
	Woodchopper .....	11	.....
	Williams .....	66	1,268
	Wide West .....	9	1,206
	West End .....	62	1,890
	Total .....	21,271	1,485
Esmeralda .....	Central .....	12	1,264
	Chaitorich, J.....	290	.....
	Garfield miners.....	969	500
	Georgene .....	664	1,250
	Garfield .....	729	1,000
	Mount Diablo.....	8,507	1,213
	Pamlico.....	66	1,490
	Garfield Limited Company .....	402	.....
	Wheeler .....	200	.....
	Total .....	11,842	717
Elko .....	Commonwealth.....	3,835	600
	Eira .....	243	697
	Grand Prize .....	2,218	500
	Navajo .....	2,175	1,630
	Nevada Queen.....	1,427	60
	Young America South.....	645	1,200
	Total .....	10,545	737
Humboldt.....	Borden, E. H.....	30	1,453
	Onondago.....	86	132
	Paradise Valley .....	2,631	750
	Roe C. H.....	210	.....
	Southwestern.....	1,846	.....
	Yuba Mining and Reduction Company .....	106	1,701
	Sunday .....	6	666
	Total .....	4,917	702
Lander .....	Manhattan Mining and Reduction Company .....	12,429	1,022
	New Pass.....	425	.....
	Pittsburgh Consolidated Gold Mines, limited.....	7,981	.....
	Silver Grey .....	45	281
	Total .....	20,880	1,303
Lincoln .....	Southwestern.....	925	.....
	Yuba Mining and Reduction Company .....	906	80
	Total .....	1,831	80



FOR THE YEAR 1889—Continued.

Gross yield.	Cost of—		Cost of reduction.		Total cost.
	Mining.	Transportation.	Free milling.	Freiberg process.	
\$8,460.77	\$6,266.49	\$202.00	.....	\$1,432.63	\$7,901.12
87,380.00	66,000.00	8,100.00	.....	14,350.00	88,450.00
765.04	1,090.00	75.23	.....	69.82	1,235.05
305.84	400.00	37.00	.....	68.37	505.37
128.07	125.00	6.00	.....	11.65	142.65
1,451.04	1,150.00	377.50	.....	88.72	1,616.22
163.45	150.00	4.00	.....	13.01	167.61
378.40	300.00	45.00	.....	145.44	490.44
544.28	555.00	54.00	.....	120.50	729.50
3,665.00	3,038.00	970.03	.....	.....	4,008.03
198.13	120.00	12.00	.....	96.03	228.03
3,890.95	2,352.08	251.00	.....	733.87	3,336.95
757,520.78	384,367.89	30,305.09	.....	220,237.76	634,910.74
798.41	414.75	88.29	\$227.84	.....	730.88
2,473.97	630.00	810.00	1,590.00	.....	3,030.00
26,659.98	19,294.27	3,713.57	7,577.19	.....	30,585.03
12,235.50	5,481.33	.....	6,862.99	.....	12,344.32
21,583.29	18,022.34	2,752.01	5,199.05	.....	25,973.40
235,926.39	106,490.67	16,375.24	95,830.02	.....	218,695.93
28,848.47	20,195.87	305.05	1,001.55	.....	21,502.47
13,142.40	11,281.45	2,295.47	2,825.02	.....	16,401.94
1,131.18	1,100.00	200.00	900.00	.....	2,200.00
342,799.59	182,910.68	26,539.63	122,013.66	.....	331,463.97
187,156.05	193,080.70	285.20	75,203.20	.....	178,569.10
45,753.88	30,249.50	3,062.00	2,182.50	500.00	35,994.00
14,406.56	24,902.50	131.62	4,771.75	.....	29,805.87
117,554.67	60,923.52	2,175.84	15,059.00	32,809.48	110,967.84
55,672.63	43,356.93	877.99	18,741.52	.....	62,976.44
107,754.69	21,182.09	4,473.41	26,243.47	.....	51,898.97
528,298.48	283,695.24	11,006.06	142,201.44	33,309.48	470,212.22
2,429.48	.....	.....	.....	.....	2,235.62
4,870.00	2,529.00	1,586.78	.....	.....	4,115.78
40,038.97	37,147.24	6,091.27	11,974.68	3,658.08	58,871.27
3,330.37	1,200.00	915.00	1,755.37	.....	3,870.37
22,725.95	10,056.56	3,361.93	3,868.15	5,574.38	22,861.02
13,925.79	17,605.26	1,424.53	609.42	.....	19,639.21
10,700.00	4,842.26	1,816.15	4,073.77	.....	10,732.18
98,035.56	73,380.32	15,195.66	22,281.39	9,232.46	122,325.45
115,802.47	47,288.00	6,096.75	.....	68,005.47	121,390.22
4,535.67	1,700.00	850.00	.....	626.07	3,176.07
72,941.48	30,191.44	1,321.00	28,090.72	.....	59,603.16
2,763.94	4,716.64	960.76	.....	816.53	6,493.93
196,043.56	83,896.08	9,228.51	28,090.72	69,448.07	190,663.38
30,063.50	8,817.90	4,655.04	10,139.53	.....	23,612.47
34,404.97	.....	.....	.....	.....	34,404.97
64,468.47	8,817.90	4,655.04	10,139.53	.....	58,017.44

## PRODUCT OF GOLD AND SILVER IN NEVADA

County.	Name of mine.	Ore extracted.	
		Tons.	lbs.
Lyon .....	Cornot .....	48	.....
	Haywood Gold and Silver Mining Company .....	1,219	.....
	Independence Gold and Silver Mining Company .....	315	.....
	Lansac .....	4	.....
	Total .....	1,586	.....
Nye .....	Bryson, James .....	3	1,584
	Barcelona .....	1,907	566
	Bloomington .....	54	510
	Cohen, H. A. ....	103	.....
	Gago & Company W. S. ....	27	427
	Gila .....	7	238
	Illinois .....	80	914
	Laioty and Clifford .....	7	1,754
	Linkenback, Phil .....	2	.....
	Morton .....	8	.....
	Morey .....	31	1,327
	Norris, W. R. ....	3	1,679
	Piora .....	1	542
	Unknown .....	105	1,332
	Silver Point .....	.....	1,344
	Soveranco, J. E. ....	1,647	1,200
	Western .....	8	1,220
	Welch, A. ....	78	353
	Total .....	4,078	990
Storey .....	Alta Gold and Silver Mining Company .....	7,301	56
	Consolidated California and Virginia Silver Mining Company.	138,128	.....
	Chollar .....	10,871	.....
	Challenger .....	2,858	.....
	Confidence .....	9,501	12
	Crown Point .....	19,615	.....
	Gould & Curry .....	250	.....
	Hale & Norcross .....	31,316	880
	Hully, Thomas .....	500	.....
	Justico .....	10,754	1,431
	Overman .....	7,605	.....
	Occidental .....	6,220	.....
	Savago .....	16,446	.....
	Yellow Jacket .....	23,594	17
	Total .....	284,560	396
White Pine .....	Bay State .....	6	1,352
	Fay .....	3	1,368
	Joanna .....	1,300	.....
	Keystone .....	400	.....
	Monitor .....	1,362	.....
	Star .....	943	600
	White Pine .....	1	1,350
	Total .....	4,017	670

FOR THE YEAR 1889—Continued.

Gross yield.	Cost of—		Cost of reduction.		Total cost.
	Mining.	Transportation.	Free milling.	Freiberg process.	
\$2,369.00	\$1,658.65	\$48.00	\$310.50	.....	\$2,017.15
16,100.75	9,889.97	1,224.00	6,119.00	.....	17,232.97
4,437.77	.....	.....	6,904.37	.....	6,904.37
360.00	2,000.00	3.00	16.00	.....	2,019.00
23,267.52	13,548.62	1,275.00	13,349.87	.....	28,173.49
613.18	700.00	90.00	119.00	.....	909.00
32,002.76	17,237.17	3,990.44	18,498.31	.....	39,725.92
7,560.65	590.40	1,111.79	817.53	.....	2,519.72
24,888.72	13,600.00	2,208.06	3,105.00	.....	18,913.06
1,461.44	1,100.00	400.00	270.00	.....	1,770.00
1,909.64	1,598.60	223.56	118.00	.....	1,940.16
11,538.12	11,360.00	1,447.25	1,127.00	.....	13,934.25
893.59	700.00	163.61	140.00	.....	1,003.61
106.61	70.00	35.00	24.36	.....	129.36
554.84	600.00	25.00	.....	.....	625.00
6,454.62	4,700.00	956.00	800.00	.....	6,456.00
483.27	520.50	129.93	48.00	.....	698.43
190.53	500.84	29.00	40.00	.....	569.84
8,735.99	7,240.00	1,541.00	1,037.71	.....	9,818.71
32.72	20.00	10.00	5.00	.....	35.00
7,544.75	4,370.58	686.39	3,490.38	.....	8,547.35
805.48	1,309.42	165.72	129.15	.....	1,604.29
183.45	7,590.00	1,700.00	3,000.00	.....	12,290.00
105,960.36	73,807.51	14,512.75	32,769.44	.....	121,489.70
215,585.50	127,792.82	1,662.03	80,772.55	.....	210,227.40
2,725,917.26	994,669.08	.....	921,505.00	.....	1,916,174.08
162,156.95	166,271.34	.....	76,097.00	.....	242,368.34
48,951.84	50,051.69	3,473.49	16,119.00	.....	69,644.18
163,537.85	89,468.78	11,576.95	55,137.22	.....	158,182.95
271,108.08	235,568.67	.....	50,139.25	.....	285,707.92
3,381.39	2,000.00	.....	187.50	\$1,500.00	3,657.50
597,527.81	290,679.56	.....	266,724.25	.....	556,803.81
3,200.00	1,000.00	320.00	1,750.00	.....	3,070.00
190,009.86	152,704.60	.....	41,308.06	.....	194,012.66
50,926.73	21,341.01	7,005.00	42,030.00	.....	70,376.01
92,870.00	37,680.00	21,560.00	29,470.00	.....	88,110.00
233,871.42	118,136.45	140,984.50	.....	.....	259,120.95
363,526.92	239,617.34	25,786.91	114,533.16	.....	379,937.41
5,122,571.61	2,525,81.34	212,368.88	1,695,772.99	1,500.00	4,435,423.21
779.68	1,650.00	150.00	80.00	.....	1,880.00
296.01	220.00	60.00	29.59	.....	309.59
13,352.00	6,121.00	1,200.00	3,328.00	.....	10,652.00
12,000.00	6,000.00	2,000.00	4,000.00	.....	12,000.00
12,299.40	4,168.33	426.00	7,300.50	.....	11,894.83
23,010.14	12,277.11	1,415.25	11,750.00	.....	25,442.36
99.81	80.00	20.00	20.00	.....	120.00
61,837.04	30,519.44	5,271.25	26,508.09	.....	62,298.78



PRODUCT OF GOLD AND SILVER IN NEVADA  
TAIL

County.	Name of mine.	Ore extracted.	
		Tons.	Lbs.
Esmeralda .....	Columbus Borax Company.....	215	.....
	Douglass & Co , J. M .....	8, 050	.....
	Fitch, A. B.....	1, 020	.....
	Jaqua, Beal & Co.....	1, 350	.....
	Pacific .....		.....
	Roach, John.....		.....
	San Yuen, A.....	1, 467	1, 100
	San Yuen.....	1, 726	1, 100
	Teel's Marsh Borax Company .....	2, 528	1, 810
	Total .....	16, 358	10
Lyon .....	Woodworth Mill Company.....	13, 980	.....
Ormsby .....	Brunswick Mill.....	1, 300	.....
	Santiago Mill .....	1, 850	.....
	Vivian Mill.....	1, 500	.....
	Total .....	4, 650	.....

FOR THE YEAR 1889—Continued.

INGS.

Gross yield.	Cost of—		Cost of reduction.		Total cost.
	Mining.	Transportation.	Free milling.	Freiberg process.	
\$17,200.00	\$2,150.00	\$5,590.00	\$8,600.00	.....	\$16,340.00
13,867.30	.....	3,420.00	19,237.00	.....	22,657.00
3,150.00	290.00	620.00	2,040.00	.....	2,950.00
4,850.00	.....	1,350.00	3,300.00	.....	4,650.00
4,200.00	.....	.....	.....	.....	4,100.10
4,000.00	.....	.....	3,800.45	.....	3,800.45
2,568.92	1,084.85	183.44	1,084.85	.....	2,353.14
3,280.37	1,381.45	.....	1,381.45	.....	2,762.90
19,057.92	1,588.11	6,352.44	4,764.33	.....	12,704.88
72,174.51	6,494.41	17,515.88	44,208.08	.....	72,318.47
35,215.21	.....	.....	30,815.61	.....	30,815.61
5,200.00	1,625.00	320.00	2,600.00	.....	4,545.00
6,639.00	2,213.00	443.00	3,844.00	.....	6,500.00
6,431.00	2,142.00	431.00	3,727.00	.....	6,200.00
18,270.00	5,980.00	1,194.00	10,171.00	.....	17,345.00

PRODUCT OF GOLD AND SILVER IN NEVADA, REPORTED BY COUNTY AUDITORS TO  
STATE COMPTROLLER, DURING THE YEAR 1889.

SUMMARY BY COUNTIES.

Counties.	Ore extracted.		Gross yield.	Cost of—		Cost of reduction.		Total cost.
				Mining.	Trans- portation.	Free mill- ing.	Froiberg process.	
	<i>Tons.</i>	<i>Lbs.</i>						
Churchill .....	200	.....	\$12,000.00	\$8,000.00	\$400.00	.....	\$4,000.00	\$12,400.00
Eureka * ..	21,271	1,483	757,520.78	384,367.89	20,303.09	.....	220,237.76	634,910.74
Esmeralda * .....	11,842	717	342,799.59	182,910.68	26,539.63	\$122,013.66	.....	331,463.97
Elko .....	10,545	737	528,298.48	283,695.24	11,006.06	142,201.44	33,309.48	470,212.22
Humboldt * .....	4,917	702	98,035.56	73,380.32	15,195.66	22,281.39	9,232.46	122,325.45
Lander .....	20,880	1,303	196,043.56	83,896.08	9,228.51	28,090.72	69,448.07	190,663.38
Lincoln * .....	1,831	80	64,468.47	8,817.90	4,655.04	10,139.53	.....	58,017.44
Lyon * .....	1,586	.....	23,267.52	13,548.62	1,275.00	13,349.87	.....	28,173.49
Nye * .....	4,078	990	105,960.36	73,807.51	14,912.75	32,769.44	.....	121,489.70
Storey .....	284,560	396	5,122,571.61	2,525,781.34	212,368.88	1,695,772.99	1,500.00	4,435,423.21
White Pine .....	4,017	670	61,837.04	30,519.44	5,271.25	26,508.09	.....	62,298.78
Total .....	365,730	1,080	7,312,802.97	3,668,725.02	331,157.87	2,093,127.13	337,727.77	6,467,378.38
<i>Tailings.</i>								
Esmeralda .....	16,358	10	72,174.51	6,494.41	17,515.88	44,208.08	.....	72,318.47
Lyon .....	13,980	.....	35,215.21	.....	.....	30,815.61	.....	30,815.61
Ormsby .....	4,650	.....	18,270.00	5,980.00	1,194.00	10,171.00	.....	17,345.00
Total .....	34,988	10	125,659.72	12,474.41	18,709.88	85,194.69	.....	120,479.08

TOTAL PRODUCT.

Ores .....	365,730	1,080	7,312,802.97	3,668,725.02	331,157.88	2,093,127.13	337,727.77	6,467,378.38
Tailings .....	34,988	10	125,659.72	12,474.41	18,709.88	85,194.69	.....	120,479.08
Total .....	400,718	1,090	7,438,462.69	3,681,199.43	349,867.76	2,178,321.82	337,727.77	6,587,857.46

\* Costs not all itemized on comptroller's statements.

ESTIMATED PRODUCT OF MINES NOT REPORTED TO STATE COMPTROLLER, 1889.

[Estimate of Mr. Wright.]

County.	Name of mine or works.	Gross yield.
Esmeralda .....	Baltimore mine .....	\$409.06
	Consolidated Esmeralda mine.....	22,056.82
	Detective mine .....	2,739.36
	Evening Star mine.....	2,601.75
	Early Dawn mine.....	500.00
	Good Hope mine.....	5,182.03
	Hartford mine.....	1,141.86
	Lapanta mine.....	2,626.89
	New York mine .....	1,720.01
	Ontario mine.....	2,806.58
	Kinkead Mill (tailings) .....	5,340.63
Total .....		47,424.99



## ESTIMATED PRODUCT OF MINES, ETC.—Continued.

County.	Name of mine or works.	Gross yield.
Lincoln .....	Poor-man's Prospect mine .....	\$3,453.67
	Spring mine .....	5,911.20
	Total .....	9,364.87
Lander .....	J. A. Miller mine .....	5,300.00
Nye .....	Bareelonia mine .....	1,205.53
	Downey .....	840.08
	Liberty and Belle of Reville mine .....	4,370.84
	Niagara .....	1,492.95
	Paymaster .....	2,560.54
	Total .....	10,469.94
White Pine .....	Argus mine .....	64,166.83
	Ely .....	5,215.85
	Merrimae Mining Company .....	49,001.92
	Total .....	118,384.60

## SUMMARY BY COUNTIES OF ESTIMATED PRODUCT OF MINES NOT REPORTED TO STATE COMPTROLLER, 1889.

County.	Value.
Esmeralda .....	\$47,424.99
Lincoln .....	9,364.87
Lander .....	5,300.00
Nye .....	10,469.94
White Pine .....	118,384.60
	190,944.40

## GRAND RECAPITULATION, 1889.

Total product reported by county auditor to State comptroller .....	\$7,438,462.69
Estimated product not reported by county auditors to State comptroller .....	190,944.40
	7,629,407.09

Wells, Fargo & Co. report the shipments of the precious metals (including base metals) from Nevada in 1889 as follows:

Gold dust and bullion by express .....	\$3,082,653
Silver bullion by express .....	6,352,654
Ores and base bullion by freight .....	2,473,654
	11,908,961

## GOLD AND SILVER PRODUCED FROM THE COMSTOCK LODE DURING THE YEAR 1889.

Sourees.	Gold.	Silver.	Total.
Amount reported by Wells, Fargo & Co. ....	\$1,883,829.65	\$2,592,514.80	\$4,476,344.45
Amount deposited at United States mint at Carson, Nev., and not included in above statement .....	464,812.02	571,112.77	1,035,924.79
Total .....	2,348,641.67	3,163,627.57	5,512,269.24

## LIST OF ORE-PRODUCING MINES IN NEVADA.

Metal produced.	Name of mine.	Where situated.	
		Town.	County.
Gold and silver .....	Argus .....	Taylor .....	White Pine.
Do. ....	Anderson .....	Hamilton .....	Do.
Gold, silver, and lead ..	Avon .....	Ruby Hill .....	Eureka.
Do. ....	Altoona .....	Eureka .....	Do.
Do. ....	Austin .....	Mineral Hill .....	Do.
Do. ....	Adelphia .....	Ruby Hill .....	Do.
Gold and silver .....	Alexander .....	Grantsville .....	Nye.
Do. ....	Air Shaft .....	Morey .....	Do.
Do. ....	Aultman .....	Ely .....	Do.
Do. ....	Alta Gold and Silver Mining Co. ....	Gold Hill .....	Storey.
Do. ....	Alpha Gold and Silver Mining Co. ....	do .....	Do.
Do. ....	Andes Gold and Silver Mining Co. ....	Virginia .....	Do.
Gold, silver, and lead ..	Banner .....	Eureka .....	Eureka.
Do. ....	Bullwhacker .....	do .....	Do.
Do. ....	Benjamin Harrison .....	Cortez .....	Do.
Do. ....	Bald Eagle .....	Eureka .....	Do.
Gold and silver .....	Barcelona .....	Belmont .....	Nye.
Do. ....	Bloomington .....	Lodi .....	Do.
Do. ....	Belle of Reville .....	Reville .....	Do.
Do. ....	Brewlers & Adams' .....	Belmont .....	Do.
Do. ....	Baltimore .....	Hawthorne .....	Esmeralda.
Do. ....	Big Ingun .....	do .....	Do.
Do. ....	Butte Mining Co. ....	Rye Patch .....	Humboldt.
Do. ....	Belle Isle Mining Co. ....	Tuscarora .....	Elko.
Gold, silver, and lead ..	Bay State .....	Newark .....	White Pine.
Gold and silver .....	Bingham & Co.'s Mines .....	Pioche .....	Lincoln.
Do. ....	Bristol Syndicate .....	Bristol .....	Do.
Do. ....	Baltimore Gold and Silver Mining Co. ....	Gold Hill .....	Storey.
Do. ....	Bullion Gold and Silver Mining Co. ....	do .....	Do.
Do. ....	Belcher Gold and Silver Mining Co. ....	do .....	Do.
Do. ....	Best & Belcher Mining Co. ....	Virginia .....	Do.
Do. ....	Consolidated California and Virginia Gold and Silver Mining Co. ....	do .....	Do.
Do. ....	Chollar Gold and Silver Mining Co. ....	do .....	Do.
Do. ....	Confidence Gold and Silver Mining Co. ....	Gold Hill .....	Do.
Do. ....	Challenge Gold and Silver Mining Co. ....	do .....	Do.
Do. ....	Crown Point Gold and Silver Mining Co. ....	do .....	Do.
Gold, silver, and lead ..	California .....	Eureka .....	Eureka.
Do. ....	Contention .....	do .....	Do.
Do. ....	Cohen's, H. A. ....	do .....	Do.
Do. ....	Congress .....	do .....	Do.
Do. ....	Cortez (limited). ....	Cortez .....	Do.
Do. ....	Climax .....	Eureka .....	Do.
Gold and silver .....	Candelaria Water Works and Milling Co. (limited). ....	Candelaria .....	Esmeralda.
Do. ....	Consolidated Esmeralda Mines .....	Amara .....	Do.
Do. ....	Chiatovich's, John .....	Silver Peak .....	Do.
Do. ....	Cornet .....	do .....	Lyon.
Do. ....	Cornish Ledge .....	Belmont .....	Nye.
Gold, silver, and lead ..	Chicago Mining and Reduction Co. ....	Junction .....	Do.
Do. ....	Commonwealth Consolidated Mining Co. ....	Tuscarora .....	Elko.

## LIST OF ORE-PRODUCING MINES IN NEVADA—Continued.

Metal produced.	Name of mine.	Where situated.	
		Town.	County.
Gold, silver, and lead	Cave .....	Bristol .....	Lincoln.
Do .....	Coraell .....	Hamilton .....	White Pine.
Do .....	Cliff Mining Co .....	Spring City .....	Humboldt.
Do .....	Clipper .....	Frishie .....	Lander.
Do .....	Downey .....	Downeyville .....	Nye.
Gold and silver	Detective .....	Lida Valley .....	Esmeralda.
Do .....	Durand .....	Aurora .....	Do.
Gold, silver, and lead	Dead Broke .....	Ruby Hill .....	Eureka.
Do .....	Diamond .....	Diamond City .....	Do.
Do .....	Dug Out .....	Eureka .....	Do.
Do .....	Eureka Tunnel .....	do .....	Do.
Do .....	El Dorado .....	Ruby Hill .....	Do.
Do .....	Ethel .....	Eureka .....	Do.
Do .....	East Oakland .....	.....	Do.
Do .....	Eira Mining Co .....	.....	Do.
Do .....	Eureka Consolidated Mining Co .....	Ruby Hill .....	Do.
Do .....	Eureka Star .....	Eureka .....	Do.
Gold and silver	Exchequer Gold and Silver Mining Co .....	Gold Hill .....	Storey.
Do .....	Ely Milling and Mining Co .....	Ely .....	White Pine.
Do .....	Exchequer .....	Cherry Creek .....	Do.
Do .....	Eagle .....	Oscola .....	Do.
Do .....	Evening Star .....	Luning .....	Esmeralda.
Do .....	Found Treasure .....	Tuscarora .....	Elko.
Do .....	Fay .....	Cherry Creek .....	White Pine.
Gold, silver, and lead	Fair Play .....	White Pine .....	Do.
Zinc, cobalt, gold, and silver.	Gila Silver Mining Co .....	Reville .....	Nye.
Gold and silver	Grant .....	do .....	Do.
Do .....	do .....	Morey .....	Do.
Do .....	Gage & Co.'s, W. S. .....	Midas .....	Do.
Do .....	Garfield Mining Co .....	Sodaville .....	Esmeralda.
Do .....	Georgeno .....	do .....	Do.
Do .....	Good Hope .....	Silver Peak .....	Do.
Do .....	Golden Treasure .....	Ely .....	White Pine.
Gold, silver, and lead	Great Republic and Troy .....	Mineral Hill .....	Eureka.
Do .....	Geddes & Bertrand .....	Geddes .....	Do.
Do .....	Grant .....	.....	Do.
Gold and silver	Grand Prize Mining Co .....	Tuscarora .....	Elko.
Do .....	Gould & Curry Gold and Silver Mining Co .....	Virginia .....	Storey.
Do .....	Golden Crown .....	.....	Churchill.
Gold, silver, and lead	General Lee .....	Eureka .....	Eureka.
Gold and silver	Haywood Gold and Silver Mining Co .....	Silver City .....	Lyon.
Do .....	Hale & Norcross Gold and Silver Mining Co .....	Virginia City .....	Storey.
Do .....	Horn Silver .....	Grantsville .....	Nye.
Gold, silver, and lead	Half Moon .....	Pioche .....	Lincoln.
Gold and silver	Hartford .....	Hawthorne .....	Esmeralda.
Do .....	Holmes Gold and Silver Mining Co .....	Candelaria .....	Do.
Gold, silver, and lead	Hamburg .....	Eureka .....	Eureka.
Do .....	Huguenot .....	.....	Do.
Gold	Harris .....	.....	Washoe.
Gold, silver, and lead	Iron Clad .....	Eureka .....	Eureka.



## LIST OF ORE-PRODUCING MINES IN NEVADA—Continued.

Metal produced.	Name of mine.	Where situated.	
		Town.	County.
Gold and silver .....	Independence Gold and Silver Mining Co.	Silver City .....	Lyon.
Do .....	Imperial Gold and Silver Mining Co.	Gold Hill .....	Storey.
Do .....	Imperial .....	Hamilton .....	White Pine.
Gold, silver, and lead ..	Idaho .....	Eureka .....	Eureka.
Gold and silver .....	Illinois .....	Lodi .....	Nye.
Gold, silver, and lead ..	Jackson .....	Eureka .....	Eureka.
Gold and silver .....	Justico Gold and Silver Mining Co.	Gold Hill .....	Storey.
Do .....	Jefferson .....	Jefferson .....	Nye.
Do .....	Joanna .....	Ely .....	White Pine.
Do .....	Kentuck Gold and Silver Mining Co.	Gold Hill .....	Storey.
Do .....	Koystone .....	Ely .....	White Pine.
Do .....	Konegsburg .....	Hamilton .....	Do.
Gold, silver, and lead ..	Kentuck .....	Eureka .....	Eureka.
Gold .....	Lapanta .....	Hawthorne .....	Esmeralda.
Gold and silver .....	Liberty .....	Reville .....	Nye.
Do .....	Lincoln .....	.....	Do.
Do .....	Lucky Deposit .....	Aurum .....	White Pine.
Do .....	Lausac .....	Silver City .....	Lyon.
Gold, silver, and lead ..	Leonie .....	Ruby Hill .....	Eureka.
Do .....	Lone Pine .....	Eureka .....	Do.
Do .....	Lord Byron .....	Ruby Hill .....	Do.
Do .....	Little Rosa .....	Eureka .....	Do.
Gold and silver .....	Morton .....	.....	Nye.
Do .....	Ma Alta .....	Tybo .....	Do.
Do .....	Miller, J. A. ....	Austin .....	Lander.
Do .....	Mount Diablo Milling and Mining Co.	Candelaria .....	Esmeralda.
Do .....	Merrimac Mining Co. ....	Cherry Creek .....	White Pine.
Do .....	Morning Star .....	do .....	Do.
Do .....	Montezuma .....	Hamilton .....	Do.
Do .....	Monte Christo .....	do .....	Do.
Do .....	Maysville .....	Battle Mountain ..	Do.
Gold, silver, lead, iron, and antimony.	Monitor .....	Taylor .....	Do.
Gold, silver, and lead ..	Marguerita .....	Eureka .....	Eureka.
Do .....	Mineral Hill .....	Mineral Hill .....	Do.
Do .....	Mortimer .....	Eureka .....	Do.
Do .....	Macon City .....	Ruby Hill .....	Do.
Do .....	Monarch .....	Safford .....	Do.
Gold and silver .....	Mexican Gold and Silver Mining Co.	Virginia .....	Storey.
Do .....	Manhattan Mining Co. ....	Austin .....	Lander.
Do .....	Morey .....	Morey .....	Nye.
Do .....	Midas .....	Sylvania District ..	Esmeralda.
Gold, silver, and lead ..	New Gladstone .....	Lone Mountain .....	Do.
Do .....	Needle .....	.....	Eureka.
Do .....	North Star .....	Safford .....	Do.
Gold and silver .....	New Pass .....	.....	Lander.
Do .....	Nevada Queen Mining Co. ....	Tuscarora .....	Elko.
Do .....	Navajo Mining Co. ....	do .....	Do.
Do .....	North Belle Isle Mining Co.	do .....	Do.
Do .....	Niagara .....	Reville .....	Nye.
Gold, silver, and lead ..	New Year .....	Belmont .....	Do.
Do .....	Nye Mining Co. ....	Tybo .....	Do.

## LIST OF ORE-PRODUCING MINES IN NEVADA—Continued.

Metal produced.	Name of mine.	Where situated.	
		Town.	County.
Gold and silver .....	New York .....	Candelaria.....	Esmeralda.
Do .....	New York Consolidated Mining Co ..	Gold Hill .....	Storey.
Gold, silver, and lead...	Onondaga .....	Safford .....	Eureka.
Gold and silver .....	Overman Gold and Silver Mining Co ..	Gold Hill .....	Storey.
Do .....	Ophir Gold and Silver Mining Co. ....	Virginia .....	Do.
Do .....	Occidental Gold and Silver Mining Co.	Gold Hill .....	Do.
Gold .....	Osecola Gravel Mining Co .....	Osecola .....	White Pine.
Gold and silver .....	O. K. ....	Newark .....	Do.
Do .....	Ontario .....	Kinkead.....	Esmeralda.
Do .....	Onondaga .....	Pioche.....	Lincoln.
Do .....	Oest Gold and Silver Mining Co. ....	Silver City.....	Lyon.
Do .....	Piora .....	.....	Nye.
Do .....	Poor Man's Prospect .....	Pioche.....	Lincoln.
Gold .....	Pittsburg Consolidated Gold Mines (limited).	Pittsburgh .....	Lander.
Gold and silver .....	Pioche Consolidated Mining Co .....	Pioche .....	Lincoln.
Gold .....	Paulico .....	Hawthorne .....	Esmeralda.
Gold and silver .....	Paradise Valley Milling and Mining Co.	Spring City.....	Humboldt.
Do .....	Potosi Gold and Silver Mining Co ..	Virginia .....	Storey.
Do .....	Palmetto .....	Palmetto .....	Esmeralda.
Gold, silver and lead...	Phoenix.....	Eureka .....	Eureka.
Do .....	Palisade Silver Mining Co .....	Palisade .....	Do.
Do .....	Paymaster .....	Junction.....	Do.
Do .....	Paul Pry .....	Eureka .....	Do.
Do .....	Prospect Mountain .....	do .....	Do.
Gold and silver .....	Paul .....	Hamilton .....	White Pine.
Gold .....	Pandora .....	Jumbo District .....	Washoe.
Gold, silver, and lead...	Richmond Consolidated Mining Co ..	Ruby Hill .....	Eureka.
Do .....	Ruby, Dunderberg & Co .....	Dunderberg .....	Do.
Do .....	Red Jacket .....	.....	Do.
Gold and silver .....	Reliance .....	Hamilton .....	White Pine.
Do .....	Rosco .....	do .....	Do.
Do .....	Rescue .....	Pinto .....	Do.
Gold, silver, and lead...	Silver Connor.....	Ruby Hill .....	Eureka.
Do .....	Seventy Six .....	Eureka .....	Do.
Do .....	Silver Lick .....	do .....	Do.
Do .....	St. Peter's Gold and Silver Mining Co.	.....	Do.
Do .....	Spencer .....	.....	Do.
Do .....	Silver Reef .....	Mineral Hill .....	Do.
Gold and silver .....	Sundrie .....	Hamilton .....	White Pine.
Do .....	Sunset .....	do .....	Do.
Do .....	Star .....	Cherry Creek.....	Do.
Gold, silver, and lead ..	Southwestern Mining Co .....	El Dorado Canyon ..	Lincoln.
Do .....	Spring Mountain .....	Pioche .....	Do.
Gold and silver .....	Silver Park.....	Silver Park.....	Do.
Do .....	Savage Gold and Silver Mining Co ..	Virginia .....	Storey.
Do .....	Sierra Nevada Gold and Silver Mining Co.	do .....	Do.
Do .....	Scorpion Gold and Silver Mining Co..	do .....	Do.
Do .....	Seg. Belcher & Mides Consolidated Gold and Silver Mining Co.	Gold Hill .....	Do.
Do .....	Silver Hill Gold and Silver Mining Co.	do .....	Do.
Do .....	Sand Mound .....	Belmont .....	Nye.

## LIST OF ORE-PRODUCING MINES IN NEVADA—Continued.

Metal produced.	Name of mine.	Where situated.	
		Town.	County.
Gold and silver .....	Snapper .....	Reville .....	Nye.
Do .....	Silver Point .....	.....	Do.
Do .....	Silver Gray .....	Frisbie .....	Lander.
Do .....	Sentinel .....	Sylvania .....	Esmeralda.
Do .....	Sunday .....	.....	Elko.
Do .....	Tarantula .....	Lono Mountain ..	Esmeralda.
Do .....	Union Consolidated Gold and Silver Mining Co.	Virginia .....	Storey.
Do .....	Valley Milling and Mining Co .....	Hiko .....	Lincoln.
Do .....	West End .....	Pioche .....	Do.
Do .....	Wheeler .....	Pine Grove .....	Esmeralda.
Do .....	Western Central .....	Oseeola .....	White Pine.
Gold, silver, and lead ..	Water Jacket .....	Ruby Hill .....	Eureka.
Do .....	Whip poor-will .....	do .....	Do.
Do .....	Woodchopper .....	do .....	Do.
Do .....	Williams .....	do .....	Do.
Do .....	Wide West .....	.....	Do.
Gold .....	Wild Goose .....	Jumbo District ..	Washoe.
Do .....	Woods & Coffin .....	do .....	Do.
Gold and silver .....	Yuba Mining and Reduction Co .....	Pioche .....	Lincoln.
Do .....	Yellow Jacket Gold and Silver Mining Co.	Gold Hill .....	Storey.
Do .....	Young America South .....	.....	Elko.



## CHAPTER IX.

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### *NEW MEXICO.*

By WALTER C. HADLEY, LAKE VALLEY, N. MEX.

New Mexico, a Territory of vast extent, has been but slightly explored by prospectors for the precious metals. Practically, only one railroad penetrates those portions where gold, silver, lead, or copper, have been found in marketable quantities, and only two other railroads traverse sections where we might expect to find such ores of value. One of the latter transported last year but 65 tons of ore from points within the Territory, and the other carried ores from only two shipping points in New Mexico, and those in very inconsiderable amounts. In other words, we may say that one railroad carried all the ores and bullion produced by the Territory, and of its total mileage within the Territory about 11 per cent. is in short branches from the main line which have been constructed to facilitate ore shipments. Many promising discoveries have been made at points where active operations may be expected when railroad facilities reach them.

Only a general review of the production by counties is given, as many producers have made information furnished confidential, and others, possibly lacking confidence, have vouchsafed no information at all.

#### COLFAX COUNTY.

The output of gold for a number of years from the placers and quartz ledges of this county, particularly of the Ute Creek and Elizabethtown districts, has been considerable, and in some years quite large. My efforts to ascertain the actual output this year have failed, owing to a controversy between land-grant and discovery titles. Those producing the precious metals are averse to giving information. It is likely that the output was not less than \$100,000 gold and \$14,000 silver.

#### SANTA FÉ COUNTY.

The Santa Fé Copper Company, owning what is commonly known as the San Pedro mine, 20 miles south of Los Cerrillos, produced in 1889, 1,518 long tons of copper matte, which was shipped to New York. The gold contents of the same are not stated, but they were probably

not of less value than \$25,000. The Cash Entry mine, 3 miles north of Los Cerrillos, has been recently sold to English capitalists. Considerable development work has been done. Extensive plants of machinery have been provided, and, while the shipment of ore in 1889 was not large, the amount mined was very considerable.

Recent discoveries of silver-bearing lead-carbonates near San Pedro are important. During 1889 the output therefrom was about 4,000 tons; containing gold, \$6,520; lead, \$52,430; and silver, \$77,310. More than three-fourths of these values were taken from the Lincoln-Lucky mine.

#### SOCORRO COUNTY.

During the year, Socorro County became prominent as a gold producer; the new discoveries were in the Mogollon Mountains, where two stamp mills have been in operation, one at Cooney and the other on Silver Creek. The prospects for increased production in this section are promising. Other producing camps furnished chiefly silver-lead ores of excellent fluxing qualities, which have made Socorro a smelting center. A new smelter was erected at Kelly camp last winter, but it is not yet in operation.

#### SIERRA COUNTY.

The only rival Sierra County has in the production of the precious metals is Grant County. The mines of the latter, however, were productive for many years before those of Sierra were discovered. There is a larger proportion of mountainous country in Sierra than in any other county in New Mexico, and mining is the chief occupation of its people. At Lake Valley there is a leaching mill and amalgamating mill, with joint capacity of 100 tons per day. Neither is now in operation. All ore is shipped, as it is in demand with smelters for fluxing purposes. A 20 stamp gold mill is in operation at Hillsborough. Hermosa has a concentrator; Chloride, a leaching mill; and Kingston, a concentrator. Lake Valley produced \$285,000, Kingston, \$251,000, and Hermosa, \$112,000 of the silver credited to this county in the table, by counties, given below, and Hillsborough produced \$91,000 of the gold so credited. Other producing districts are North Percha, South Percha, Tierra Blanca, Chloride, and Animas.

#### LINCOLN COUNTY.

Since 1879, gold has been produced in White Oaks, and discoveries of gold in other parts of the county have been made. A large amount of money was squandered by Eastern operators who undertook to introduce novel methods. Within the past two or three years, experienced miners and mill-men have taken hold of the White Oak mines and have attained success. The North Homestake and South Homestake mines produced \$168,744 of the entire output of the county, and

about 98 per cent. of this was gold. All of this product has been obtained by amalgamation, no considerable amount of shipping ore being mined. Reports place the cost of mining at from \$1 to \$5 per ton, and of milling \$1.20 per ton. Copper and lead do not exist in quantities to warrant shipment to the nearest railroad point, which is distant 100 miles.

#### DONA ANA COUNTY.

The Organ Mountains chiefly furnished the precious metals produced in this county in 1889, the silver-lead mines being the ones most actively worked. The gold output was unimportant. The output of the Organ district is figured at 4,000 tons, containing 70,000 ounces of silver and 1,500,000 pounds of lead. The major portion of this was produced by the Bennett mine. There are no local works for the treatment of ores, which are hauled to Las Cruces for railroad transportation.

#### GRANT COUNTY.

The first discovery of the precious metals in Grant County was made in May, 1860, when gold was found in both gravel and ledge at Pinos Altos. Ten years later, silver mines near Silver City began to be worked, and for twenty-five years the county has been more reliable and constant in production than any other in New Mexico. Sierra County has in certain years surpassed it, but development work there has neither been so widely extended nor unremittingly prosecuted. In both counties it is noticeable that the most valuable silver mines are in contact veins with lime for one wall, and either lime, slate, or porphyry for the other. It is also noticeable that the best gold veins are fissures, chiefly in syenite. There are a few silver-lead fissure veins of great promise. Georgetown led all other camps in Grant County in silver production in 1889, with an output of 367,500 ounces, of which the mines of the Mimbres Consolidated Company produced 230,000 ounces. The ore is free-milling, and all the lower grades were treated by amalgamation at the local mills. Pinos Altos led as a gold producer. The principal mines have also their own mills wherein the ores are treated by amalgamation and concentration. The concentrates are shipped to smelters in Socorro, N. Mex., or Denver, Colo. As yet a high percentage of saving has not been attained by some of the mill men. The Mountain Key mine produced \$144,000 as reported by its owners. Reliable data could not be had of the owners of other properties, but it is believed that the estimate given in the table by counties is not far from the actual product. The Carlisle mine produced \$150,006.44 in gold and silver, the proportion being about forty of the former to one of the latter, the ore being valued at about \$5 per ton. The Santa Rita copper mine produced 250 tons of copper. The Graphic mine, in Cook's Peak district, produced \$31,500 in ores, running about 40 per cent. lead and 80 ounces silver, which were shipped to smelters. The remainder of the



metal output credited to Grant County was obtained from a large number of mines in the district already mentioned, and in the Hachita, Victoria, Pyramid, Gold Hill, Steeple Rock, Tres Hermanos, Telegraph, Bear Mountain, Lone Mountain, and Bullard's Peak districts. The total output for the county is placed at \$1,426,903.

PRODUCTION OF NEW MEXICO BY COUNTIES, 1889.

County.	Gold.	Silver.	Lead.	Copper.	Total.
Colfax .....	\$100,000	\$14,000	.....	\$3,500	\$117,500
Mora .....	3,000	16,500	\$2,500	1,200	23,200
Santa Fé .....	37,190	91,225	61,867	537,372	727,654
Bernalillo .....	2,300	1,250	.....	4,950	8,500
Socorro .....	147,500	89,326	129,800	.....	366,626
Sierra .....	113,870	818,684	30,798	13,334	976,686
Lincoln .....	209,709	8,750	.....	.....	218,459
Doña Ana .....	4,956	82,600	70,800	.....	158,356
Grant .....	517,795	768,770	59,074	81,264	1,426,903
Total .....	1,136,320	1,891,105	351,839	641,620	4,023,884

Total of gold and silver, \$3,027,425.

Reasonable freight rates and low smelting charges operate to make it profitable to producers to ship their ores to Socorro, N. Mex., El Paso, Tex., Pueblo or Denver, Colo., where better facilities and the needed classes of fluxing ores are constantly found in the market. That some of the smelters erected in New Mexico might now be running with a profit under proper management and ample capital there is no doubt, but the amount of money required to do custom smelting business is rarely furnished at the start, and disappointment in such enterprises is the rule.

Of the \$4,023,884 produced in gold, silver, lead, and copper in New Mexico in 1889, there was shipped as gold bullion and dust \$434,507, and as silver bullion \$140,325; all of the remainder was shipped as matte, concentrates, base bullion, or ore. Freight tariffs on ore in New Mexico are lower than in any other portion of the west.

SMELTING WORKS.

The only custom smelting works in practical operation in New Mexico during the year 1889 were those of the Rio Grande Smelting Company, at Socorro, which treated 31,000 tons of ore. The product as base bullion, shipped to the St. Louis Smelting and Refining Company, contained 14,040 ounces gold; 1,292,600 ounces silver; and 5,750 tons of lead. New Mexico, Arizona, and Mexico furnished almost all of the ores treated. There are, in the Territory, smelters at Socorro, Albuquerque, Deming, Kingston, Kelly, Las Cruces, Silver City, and Carlisle—all of them idle; most of them never ran thirty days.

Many engaged in the mining of the precious metals are incapable of correctly estimating the cost of producing a ton of ore. Those who have had only limited experience rarely place the cost at more than \$4. Of course, large bodies of low grade gold ores and lead carbonate ores may be found that can be mined at this figure, or at a much lower one. Miners of more extended experience, however, put the cost of mining from the average vein at from \$15 to \$25 per ton. My belief is that the average cost is not much more nor less than \$30 per ton for every ton of ore mined in New Mexico ; and the mines of New Mexico are not different from those of Colorado or Montana.

## CHAPTER X.

### OREGON.

By W. H. DIMOND,

*Superintendent of United States Mint at San Francisco, Cal.*

The product of the precious metals in the State of Oregon for the calendar year 1889 was, approximately, gold, \$1,352,249.37; silver, \$41,589; total, \$1,393,838.37.

#### PRODUCT OF OREGON, BY COUNTIES, 1889.

County.	Post-office.	Gold.	Silver.	Total.
Baker .....	.....	\$462,604.01	\$7,500.00	\$471,104.01
Benton .....	.....	2,500.00	.....	2,500.00
Columbia .....	.....	575.00	.....	575.00
Coos .....	.....	66,442.09	2,300.00	68,742.09
Crook .....	.....	500.00	50.00	550.00
Curry .....	.....	5,326.57	400.00	5,726.57
Douglas .....	.....	4,188.00	.....	4,188.00
Grant .....	.....	73,988.60	9,550.00	83,538.60
Jackson .....	.....	59,236.54	5,012.00	64,248.54
Josephine .....	.....	38,049.34	.....	38,049.34
Klamath .....	.....	5,350.00	.....	5,350.00
Lane .....	.....	3,500.00	.....	3,500.00
Malheur .....	.....	54,000.00	6,750.00	60,750.00
Union .....	.....	574,989.22	10,027.00	585,016.22
Total .....	.....	1,352,249.37	41,589.00	1,393,838.37

#### BULLION PRODUCTION OF MINES IN OREGON FOR THE TWELVE MONTHS ENDING DECEMBER 31, 1889.

Name of mining company.	Post-office.	Gold.	Silver.	Total.
<i>Baker County.</i>				
Blue Canyon .....	Auburn .....	\$200.00	.....	\$200.00
Auburn Camp .....	do .....	12,000.00	.....	12,000.00
Bulger Flat .....	Baker City .....	1,000.00	.....	1,000.00
Nelson Placer .....	do .....	77,000.00	.....	77,000.00
Tom Paine .....	do .....	7,050.00	.....	7,050.00
Bonanza .....	do .....	12,402.00	.....	12,402.00
Baisly Elkhorn .....	do .....	3,744.14	.....	3,744.14
Elkhorn Extension .....	do .....	3,600.00	.....	3,600.00



BULLION PRODUCTION OF MINES IN OREGON FOR THE TWELVE MONTHS ENDING  
DECEMBER 31, 1889—Continued.

Name of mining company.	Post-office.	Gold.	Silver.	Total.
<i>Baker County—Continued.</i>				
White Star .....	Baker City .....	\$2, 500.00	.....	\$2, 500.00
Wintersville Camp .....	do .....	25, 000.00	.....	25, 000.00
Roban Gulch Placer.....	do .....	6, 000.00	.....	6, 000.00
Big Aleck.....	do .....	3, 000.00	.....	3, 000.00
Clark's Creek .....	Bridgeport .....	1, 860.30	.....	1, 860.30
Hong Sing Co .....	do .....	4, 000.00	.....	4, 000.00
Barnhart .....	do .....	600.00	.....	600.00
Heyse .....	do .....	1, 000.00	.....	1, 000.00
Griffin .....	do .....	500.00	.....	500.00
Hart.....	do .....	400.00	.....	400.00
Small mines.....	do .....	1, 000.00	.....	1, 000.00
Burnt River .....	do .....	1, 200.00	.....	1, 200.00
Pobst.....	Britten .....	10, 000.00	.....	10, 000.00
Mann .....	do .....	5, 000.00	.....	5, 000.00
Bonanza .....	do .....	10, 000.00	.....	10, 000.00
Virginia .....	do .....	8, 000.00	.....	8, 000.00
Golden Monarch.....	do .....	7, 000.00	.....	7, 000.00
Bellrue .....	do .....	30, 000.00	.....	30, 000.00
Cracker .....	do .....	2, 500.00	.....	2, 500.00
Ah Lung .....	do .....	2, 000.00	.....	2, 000.00
Sam Lee.....	do .....	500.00	.....	500.00
Wa Kee .....	do .....	300.00	.....	300.00
Lo Chung.....	do .....	1, 000.00	.....	1, 000.00
Walkin .....	do .....	1, 800.00	.....	1, 800.00
Connor .....	do .....	3, 000.00	.....	3, 000.00
Simons .....	do .....	1, 200.00	.....	1, 200.00
Eureka and Excelsior.....	Cracker City.....	500.00	.....	500.00
Connor Creek.....	Connor Creek .....	118, 913.57	.....	118, 913.57
Clarksville.....	Clarksville .....	3, 500.00	.....	3, 500.00
Clarksville Camp, small mines.....	do .....	15, 000.00	.....	15, 000.00
Blue Dick .....	Huntington .....	1, 000.00	.....	1, 000.00
Columbia .....	Hanover.....	1, 000.00	.....	1, 000.00
Rye Valley Hy .....	Rye Valley .....	30, 000.00	.....	30, 000.00
The Colt.....	do .....	2, 500.00	.....	2, 500.00
Colt's Placer (Mormon's Basin).....	do .....	2, 000.00	.....	2, 000.00
Sumpter Mines .....	Sumpter .....	25, 000.00	.....	25, 000.00
Moore .....	Weatherby .....	4, 134.00	.....	4, 134.00
Chicken Creek .....	do .....	8, 000.00	.....	8, 000.00
Gimlet Mining District.....	Baker County .....	4, 000.00	.....	4, 000.00
Bull Run District.....	do .....	1, 700.00	.....	1, 700.00
Total .....	.....	463, 604.01	.....	463, 604.01
<i>Columbia County.</i>				
Rock Creek.....	Vernonia .....	375.00	.....	375.00
<i>Coos County.</i>				
Green .....	Myrtle Point .....	2, 000.00	.....	2, 000.00
Myrtle Point Mines.....	do .....	15, 000.00	.....	15, 000.00
Donevan Quartz .....	do .....	755.00	.....	755.00
Reynolds & Rossawinkle .....	do .....	527.09	.....	527.09
Solomon Mountain.....	do .....	1, 000.00	.....	1, 000.00
Johnson District.....	do .....	1, 500.00	.....	1, 500.00
Hayes .....	do .....	300.00	.....	300.00

BULLION PRODUCTION OF MINES IN OREGON FOR THE TWELVE MONTHS ENDING  
DECEMBER 31, 1889—Continued.

Name of mining company.	Post-office.	Gold.	Silver.	Total.
<i>Coos County—Continued.</i>				
Sucker Creek .....	Myrtle Point .....	\$20.00 .....	.....	\$20.00
Ocean Beach .....	Randolph .....	3,000.00 .....	.....	3,000.00
Randolph Mines .....	do .....	41,340.00 .....	.....	41,340.00
Black Sand .....	do .....	1,000.00 .....	.....	1,000.00
Total .....	.....	66,442.09 .....	.....	66,442.69
<i>Crook County.</i>				
May Flower .....	Howard .....	300.00 .....	.....	300.00
<i>Curry County.</i>				
Solitude .....	Ellensburgh .....	196.57 .....	.....	196.57
Fitzhugh Quartz .....	do .....	30.00 .....	.....	30.00
Bailey's Beach .....	do .....	1,250.00 .....	.....	1,250.00
Sixes .....	Eckley .....	500.00 .....	.....	500.00
Sucker .....	do .....	150.00 .....	.....	150.00
Salmon .....	do .....	1,200.00 .....	.....	1,200.00
Total .....	.....	3,326.57 .....	.....	3,326.57
<i>Douglas County.</i>				
Small mines .....	North Canyonville ..	260.00 .....	.....	260.00
Mitchell .....	do .....	228.00 .....	.....	228.00
Olalla Wells Placer .....	Olalla .....	150.00 .....	.....	150.00
Wells Placer .....	do .....	200.00 .....	.....	200.00
Coffee Creek .....	Perdue .....	100.00 .....	.....	100.00
Chinese .....	Riddles .....	250.00 .....	.....	250.00
Small mines .....	do .....	2,000.00 .....	.....	2,000.00
Total .....	.....	3,188.00 .....	.....	3,188.00
<i>Grant County.</i>				
Spanish Gulch .....	Caleb .....	1,100.00 .....	.....	1,100.00
Dunlapp & Co. ....	Fox .....	1,000.00 .....	.....	1,000.00
Chinese Co .....	Hamilton .....	17,000.00 .....	.....	17,000.00
Princess .....	John Day .....	225.00 .....	.....	225.00
Virginia .....	Granite Creek .....	10,000.00 .....	.....	10,000.00
Granite Mines .....	do .....	20,000.00 .....	.....	20,000.00
Congar and Blue Mountain .....	Prairie City .....	143.00 .....	.....	143.00
Keystone .....	do .....	5,800.00 .....	.....	5,800.00
Elk Creek, or Sloan & Haskell .....	Susanville .....	3,720.60 .....	.....	3,720.60
Big Creek .....	do .....	4,000.00 .....	.....	4,000.00
Deer Creek .....	do .....	1,000.00 .....	.....	1,000.00
Total .....	.....	63,988.60 .....	.....	63,988.60
<i>Jackson County.</i>				
Shephard Bros. ....	Ashland .....	189.00 .....	.....	189.00
O'Brien & Berryman .....	Applegate .....	82.68 .....	.....	82.68
Hubb .....	do .....	10,980.21 .....	.....	10,980.21
Layton .....	do .....	3,850.00 .....	.....	3,850.00
Orme .....	Bolt .....	6,500.00 .....	.....	6,500.00
Duffield Placer .....	do .....	723.45 .....	.....	723.45
Willow Spring .....	Central Point .....	378.25 .....	.....	378.25
Cook .....	Draper .....	200.30 .....	.....	200.00
Klock .....	Gold Hill .....	24.50 .....	\$12.60 .....	37.10
McDougle .....	do .....	500.00 .....	.....	500.00

BULLION PRODUCTION OF MINES IN OREGON FOR THE TWELVE MONTHS ENDING  
DECEMBER 31, 1889—Continued.

Name of mining company.	Post-office.	Gold.	Silver.	Total.
<i>Jackson County—Continued.</i>				
Hayes & Magrudes .....	Rock Point .....	\$3, 513.90	.....	\$3, 513.90
Blackert .....	do .....	227.37	.....	227.37
Robinson .....	Woodville .....	67.18	.....	67.18
Homestake .....	do .....	12, 000.00	.....	12, 000.00
Total .....	.....	39, 236.51	\$12.60	39, 249.14
<i>Josephine County.</i>				
Fidelity .....	Grant's Pass .....	1, 508.91	.....	1, 508.91
Haviland Hydraulic .....	Kerby .....	100.04	.....	100.04
Riddle .....	do .....	67.00	.....	67.00
Leland Mines .....	Leland .....	2, 000.00	.....	2, 000.00
Goff .....	do .....	185.00	.....	185.00
Watts .....	Murphy's .....	780.30	.....	780.30
Scotch Gulch Hydraulic .....	Waldo .....	7, 500.00	.....	7, 500.00
Small mines .....	Wolf Creek .....	5, 000.00	.....	5, 000.00
Robertson .....	do .....	144.69	.....	144.69
Loomis .....	do .....	826.80	.....	826.80
Smith .....	do .....	2, 067.00	.....	2, 067.00
Williamsburg .....	Williams .....	16, 122.60	.....	16, 122.60
Horsehead .....	do .....	1, 500.00	.....	1, 500.00
Small mines .....	do .....	247.00	.....	247.00
Total .....	.....	38, 049.34	.....	38, 049.34
<i>Klamath County.</i>				
Small mines .....	Klamath .....	500.00	.....	500.00
Pechohann .....	do .....	850.00	.....	850.00
Total .....	.....	1, 350.00	.....	1, 350.00
<i>Lane County.</i>				
Pearson .....	Cottage Grove .....	500.00	.....	500.00
<i>Malheur County.</i>				
Malheur Mines .....	Malheur .....	10, 000.00	.....	10, 000.00
Small mines .....	do .....	40, 000.00	.....	40, 000.00
Littig Placer .....	do .....	2, 000.00	.....	2, 000.00
Blair & Gover .....	do .....	2, 000.00	.....	2, 000.00
Total .....	.....	54, 000.00	.....	54, 000.00
<i>Union County.</i>				
Red Jacket .....	Cornucopia .....	73, 709.22	724.32	74, 433.54
Lillie White .....	Sanger .....	650.00	.....	650.00
Hoggum .....	do .....	250, 000.00	.....	250, 000.00
Sparta Placer Mines .....	Sparta .....	15, 000.00	.....	15, 000.00
Little Pittsburg .....	do .....	39, 300.00	303.52	39, 603.52
Moratte .....	do .....	200.00	.....	200.00
Hawkins .....	do .....	30.00	.....	30.00
Grey Eagle .....	do .....	800.00	.....	800.00
Small Quartz .....	do .....	5, 000.00	.....	5, 000.00
Chinese .....	do .....	15, 000.00	.....	15, 000.00
Windsor .....	do .....	15, 000.00	.....	15, 000.00
Del Monte .....	do .....	20, 000.00	.....	20, 000.00
Union Tunnel Company .....	do .....	20, 000.00	.....	20, 000.00
Gold Ridge Company .....	do .....	40, 000.00	.....	40, 000.00



BULLION PRODUCTION OF MINES IN OREGON FOR THE TWELVE MONTHS ENDING  
DECEMBER 31, 1889—Continued.

Name of mining company.	Post-office.	Gold.	Silver.	Total.
<i>Union County—Continued.</i>				
Free Thinker .....	Sparta .....	\$2,000.00	.....	\$2,000.00
Arkansas Belle .....	do .....	25,000.00	.....	25,000.00
Magpie .....	do .....	5,000.00	.....	5,000.00
Ollie Woodman .....	do .....	10,000.00	.....	10,000.00
Legal Tender No. 2 .....	do .....	4,000.00	.....	4,000.00
Dolly Varden .....	do .....	4,000.00	.....	4,000.00
New Gem .....	do .....	10,000.00	.....	10,000.00
Sparta .....	Union .....	20,000.00	.....	20,000.00
Small mines .....	do .....	300.00	.....	300.00
Total .....	.....	574,989.22	\$1,027.84	576,017.06

RECAPITULATION BY COUNTIES.

County.	Gold.	Silver.	Total.
Baker .....	463,604.01	.....	463,604.01
Columbia .....	375.00	.....	375.00
Coos .....	66,442.09	.....	66,442.09
Crook .....	300.00	.....	300.00
Curry .....	3,326.57	.....	3,326.57
Douglas .....	3,188.00	.....	3,188.00
Grant .....	63,988.60	.....	63,988.60
Jackson .....	39,236.54	12.60	39,249.14
Josephine .....	38,049.34	.....	38,049.34
Klamath .....	1,350.00	.....	1,350.00
Lane .....	500.00	.....	500.00
Malheur .....	54,000.00	.....	54,000.00
Union .....	574,989.22	1,027.84	576,017.06
Total .....	1,309,349.37	1,040.44	1,310,389.81

## CHAPTER XI.

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### *TEXAS.*

By FRANCIS N. HOLBROOK, LAREDO, TEX.

I hand you herewith the returns, as received by me, of the production of the precious metals in the State of Texas for the year 1889. From advices received there has been very considerable activity manifested by prospectors and others in developing the resources of the State. Many new claims have been recorded, and on quite a number of old ones work has been renewed.

The abrupt cessation of work which marked the year 1888, was due to the action of some of the railroad companies owning mineral lands, and also to the burdensome tax imposed on mining by the State, and confidence and renewed activity manifested themselves only after the passage of the mining law now in force. This law containing as it does all the best elements of the United States and Mexican codes with a few additional features, secures to both prospectors and miners the greatest possible benefits. This, with the fact that Texas is almost a new mining country which has up to the present given the greatest possible proofs of mineral wealth, should secure to her in the near future a large mining class, with all the intelligence and wealth such a population implies. The evidences of there being gold and silver are everywhere abundant in the western portion of the State, and the railroad facilities there found render it a peculiarly fortunate section of our Union for all mining purposes.

The output for the year 1889 was 310,007.89 fine ounces of silver, of the coining value of \$400,709.29.

## CHAPTER XII.

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### UTAH.

By A. HANAUER, SALT LAKE CITY.

The mining industry in Utah during the year 1889, notwithstanding the low price commanded by silver and lead, its chief productions, may be described as fairly prosperous. There has been a considerable gain in tonnage, and in the output of gold and silver over the preceding year—notably a high percentage of increase of the former metal. No new districts have contributed to this gain; in fact, far-reaching developments can not be expected from any of the promising districts, not now producing, until railroad communication with outside markets is obtained. Several, from which much is expected, are yet too remote from the railroad to add materially to the Territory's output; and until this is remedied we must continue to look to the old reliable districts for our mineral wealth.

Summit, Juab, and Salt Lake Counties, in the order named, lead in the tonnage output, and in the production of the precious metals, as well as in former years. Both Summit and Juab show a gratifying gain over 1888 in the tonnage and in the gold and silver output. It may be noted here that Juab County alone produced as much gold in 1889 as did the entire Territory a year or two ago. Salt Lake County rather more than holds its own. Tooele scarcely does this, a steady decline being perceptible, while Beaver County, owing to the once famous Horn silver mine again coming to the front with regular shipments on a large scale, shows a largely increased output. In Washington County, mining, as judged by its results, seems to be at a lower ebb than in prior years, the falling off being more marked than in Tooele.

On the whole, with such promising mining districts as Park City, in Summit County, and Eureka, in Juab County, supplemented by the large and steady flow of silver-lead ores from Bingham, in Salt Lake County, there seems no reason to doubt that the Territory's progressive increase, as shown from year to year, will continue.

An exceedingly large proportion of Utah's gold and silver output finds its way to the markets of the world by means of the lead-smelting process, either through the Salt Lake Valley smelters or through the medium of extraterritorial reduction works—so large a proportion in fact and so intimate is the relationship of the silver and gold produc-



tion to that of the baser metal, that one can not, in treating of their production and reduction, disassociate the one from the other. Whatever affects the one concerns the other deeply.

The product of Utah for the calendar year 1889 was, gold 24,866 fine ounces of the value of \$514,025, and silver 7,106,886 fine ounces of the coining value of \$9,188,700; a total for gold and silver of \$9,702,725.

## PRODUCT OF UTAH, BY COUNTIES, 1889.

Counties.	Oro.	Gold.	Silver.
	<i>Tons.</i>	<i>Ounces.</i>	<i>Ounces.</i>
<b>SUMMIT COUNTY.</b>			
Ontario:			
Tons milled .....	24,757		
Sold to smelters.....	9,509		
	34,266	1,630	1,994,322
Daly:			
Tons milled (amalgamated and leached) .....	23,520		
Sold to smelters.....	6,025		
	29,545	1,357	1,185,893
Woodside.....	7,550	714	351,503
Crescent.....	3,274	237	140,030
Mayflower.....	1,055	77	38,250
Allianco.....	130	15	10,026
Sundry shipments of the Apex, Jupiter, Southern Tier, Glencoe, North Pole, Creolo, and Wasatch Mines, the Union Concentrator (Woodside and Allianco concentrates), and concentrates from Crescent Dump and Ontario Mill tailings .....	1,435	141	80,242
Total .....	77,255	4,171	3,800,266
<b>SALT LAKE COUNTY.</b>			
From Big and Little Cottonwood Districts .....	1,400		
From Bingham.....	38,290	4,705	561,280
Total.....	39,690	4,705	561,280
The principal Bingham shippers were as follows:			
Lead Mine and Brooklyn Group .....	16,458		
South Galena .....	10,500		
Spanish .....	2,400		
Yosemite No. 2.....	1,995		
Nast .....	936		
Highland .....	900		
<b>JUAB COUNTY.</b>			
Eureka Hill .....	18,500		
Bullion-Beck.....	15,500		
Mammoth.....	7,000		
American Eagle.....	1,050		
Carolino .....	1,100		
Centennial-Eureka.....	875		
Eaglo .....	150		
Sundry shipments, aggregating .....	1,900	13,440	2,015,700
To which add product of Mammoth tailings, as leached by Davis & Co .....		1,500	40,000
Total .....	46,075	14,940	2,055,700
<b>BEAVER COUNTY.</b>			
Horn Silver Mine....	11,614		279,330
Sundry lesser producers .....	1,066	310	46,000
Total .....	12,680	310	325,330

Washington County's output is that of the Silver Reef Mills and a small quantity of sulphides, aggregating 134,400 ounces silver; while Utah and Pi Ute Counties produced 75 ounces gold and 7,500 ounces silver.

GOLD AND SILVER PRODUCED IN THE TERRITORY OF UTAH DURING THE CALENDAR YEAR 1889, TABULATED BY COUNTIES.

RECAPITULATION.

Counties.	Gold.	Silver.
	<i>Ounces.</i>	<i>Ounces.</i>
Summit.....	4, 171	3, 890, 266
Salt Lake.....	4, 705	561, 280
Juab.....	14, 940	2, 055, 700
Tooele.....	665	222, 410
Beaver.....	310	325, 330
Washington.....		134, 400
Utah and Pi Ute.....	75	7, 500
Total.....	24, 866	7, 106, 886

GOLD AND SILVER PRODUCED IN UTAH BY SMELTERS AND MILLS AND SHIPPED TO OUTSIDE REFINERIES AND REDUCTION WORKS DURING THE CALENDAR YEAR 1889.

Works.	Gold.	Silver.
	<i>Ounces.</i>	<i>Ounces.</i>
Smelters:		
Hananer Smelting Works.....	6, 250	562, 650
Germania Lead Works.....	4, 368	372, 875
Mingo Furnace Company.....	6, 107	692, 517
Mills:		
Ontario Silver Mining Company.....		988, 545
Daly Mining Company (by amalgamation).....	277	276, 163
Daly Mining Company (by leaching).....	366	477, 507
Silver Reef Mills.....		134, 400
Mammoth tailings, leached by Davis & Co.....	1, 500	40, 000
Other mills and placers.....	392	16, 150
Gold and silver in ores and matte shipped to reduction works outside of the Territory.....	5, 606	3, 546, 079
Total.....	24, 866	7, 106, 886

COMPARISON OF THE PRODUCT OF UTAH FOR THE CALENDAR YEARS 1888 AND 1889.

Years.	Gold.	Silver.
	<i>Ounces.</i>	<i>Ounces.</i>
1889.....	24, 866	7, 106, 886
1888.....	14, 014	5, 848, 088
Increase, 1889 over 1888.....	10, 852	1, 258, 798

## WELLS, FARGO &amp; CO.'S STATEMENT OF THE MINERAL PRODUCT OF UTAH FOR 1889.

Works.	Copper.	Lead refined.	Lead unrefined.	Silver in bars.	Silver in base bullion and ores.	Gold in bars.	Gold in bullion and ores.
	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Ounces.</i>	<i>Ounces.</i>	<i>Ounces.</i>	<i>Ounces.</i>
Germania Lead Works ....	141,767	2,359,540	4,761,686	.....	372,875	.....	4,368
Hanauer Smelter .....			9,260,000	.....	562,650	.....	6,250
Mingo Furnace Company..	538,610	.....	11,278,690	.....	692,517	.....	6,107
Daly Mining Company .....			2,124,841	764,357	430,770	297	712
Ontario Silver Mining Company .....			2,604,280	972,442	989,622	.....	1,614
Silver Reef District .....				134,407	.....	.....	.....
Other mines and placers .....				6,200	.....	442	.....
Net product bars and base bullion .....	680,377	2,359,540	30,029,497	1,877,406	3,048,434	739	19,051
Contents ores shipped .....			28,380,048	.....	2,103,111	.....	4,846
Contents copper ore bullion and matte shipped .....	1,380,415	.....	1,012,185	.....	118,705	.....	339
Total .....	2,060,792	2,359,540	59,421,730	1,877,406	5,270,250	739	24,236

## RECAPITULATION.

Metals.	Quantity.	Value.
Copper, at 10 cents per pound .....	2,060,792	\$206,079.20
Refined lead, at 3.8 cents per pound .....	2,359,540	89,662.52
Unrefined lead, at \$46.40 per ton .....	59,421,730	1,378,584.13
Fine silver, at \$0.93 $\frac{1}{2}$ per ounce .....	7,147,651	6,656,254.65
Fine gold, at \$20 per ounce .....	24,975	499,500.00
Total export value .....		8,830,080.50

Computing the gold and silver at their mint valuation, and other metals at their value at the sea-board, would increase the value of the product to \$12,352,414.53.

## COMPARATIVE TABLE OF THE QUANTITY OF GOLD AND SILVER CONTAINED IN BASE BULLION AND ORES PRODUCED IN UTAH, 1877-1889.

Year.	Total silver produced.	Total gold produced.	Silver in ores and base bullion.	Gold in ores and base bullion.	Total silver product.	Total gold product.
	<i>Ounces.</i>	<i>Ounces.</i>	<i>Ounces.</i>	<i>Ounces.</i>	<i>Per cent.</i>	<i>Per cent.</i>
1877 .....	4,359,703	17,325	2,102,098	11,035	48.2	63.6
1878 .....	4,357,328	15,040	2,108,339	10,165	48.3	67.5
1879 .....	3,835,047	15,932	1,797,589	5,693	16.8	35.7
1880 .....	3,783,566	8,020	1,403,819	2,878	37.1	35.8
1881 .....	5,400,101	7,958	2,643,899	2,622	48.9	32.9
1882 .....	5,435,444	9,039	2,581,789	5,016	47.3	55.5
1883 .....	4,531,763	6,991	2,351,190	5,597	51.8	80.0
1884 .....	5,669,488	5,530	3,253,984	3,806	57.4	68.8
1885 .....	5,972,689	8,903	3,189,576	7,289	53.4	81.8
1886 .....	5,918,842	10,577	2,838,263	8,369	47.9	79.1
1887 .....	6,161,737	11,387	4,049,273	10,714	65.7	94.0
1888 .....	6,178,855	13,886	3,982,217	12,854	64.4	92.5
1889 .....	7,147,651	24,975	5,270,250	24,236	73.7	97.0



## CHAPTER XIII.

### WASHINGTON.

By W. H. DIMOND,

*Superintendent of the United States Mint at San Francisco, Cal.*

The bullion product of Washington for the calendar year 1889 is estimated to have been: Gold, \$193,709; Silver, \$106,000; total, \$299,709.

#### PRODUCT OF WASHINGTON, BY COUNTIES, 1889.

County.	Gold.	Silver.	Total.
Asotin .....	\$6,575.00	.....	\$6,575.00
Jefferson .....	4,000.00	.....	4,000.00
Kittitass .....	25,000.00	.....	25,000.00
Okanogan .....	18,134.00	.....	18,134.00
Stevens .....	80,000.00	\$93,500.00	173,500.00
Spokane .....	11,500.00	.....	11,500.00
Walla Walla .....	12,500.00	12,500.00	25,000.00
Whitman .....	7,500.00	.....	7,500.00
Yakima .....	28,500.00	.....	28,500.00
Total .....	193,709.00	106,000.00	299,709.00

Mining company.	Post-office.	Gold.	Silver.	Total.
<i>Asotin County.</i>				
Chinese .....	Asotin .....	\$75.00	.....	\$75.00
Small mines .....	do .....	225.00	.....	225.00
Total .....		300.00	.....	300.00
<i>Okanogan County.</i>				
Price .....	Ruby City .....	4,134.00	.....	4,134.00
<i>Stevens County.</i>				
Old Dominion .....	Colville .....	20,000.00	\$10,000.00	30,000.00
<i>Yakima County.</i>				
Cle Elum .....	Yakima .....	10,000.00	.....	10,000.00

#### RECAPITULATION.

County.	Gold.	Silver.	Total.
Asotin .....	\$300.00	.....	\$300.00
Okanogan .....	4,134.00	.....	4,134.00
Stevens .....	20,000.00	\$10,000.00	30,000.00
Yakima .....	10,000.00	.....	10,000.00
Total .....	34,434.00	10,000.00	44,434.00

## CHAPTER XIV.

### MINES OF THE APPALACHIAN RANGE.

By STUART W. CRAMER,

*Assayer in charge of United States Assay Office at Charlotte, N. C.*

#### VIRGINIA.

The value of the precious metals produced in Virginia during the calendar year 1889 is estimated to have been \$4,110, viz :

Metals.	Fine ounces.	Coining value.	Commercial value.
Gold .....	198.338	\$4, 100. 00	\$4, 100. 00
Silver.....	10. 600	12. 70	10. 00
Total .....	208.938	4, 112. 70	4, 110. 00

#### NORTH CAROLINA.

The value of the precious metals produced in North Carolina in 1889 was \$149,128.40, an increase of about \$10,000 over the preceding year.

The product for 1889 was as follows:

Metals.	Fine ounces.	Coining value.	Commercial value.
Gold .....	7, 077. 025	\$146, 295. 10	\$146, 295. 10
Silver.....	3, 000. 000	3, 878. 70	2, 833. 30
Total .....	10, 077. 025	150, 173. 80	149, 128. 40

About \$45,000 was reported as having been shipped out of the country. Concentrates and ores shipped out of the State amounting to about \$2,500 are included in the above.

The outlook for next year is encouraging.

PRODUCTION OF NORTH CAROLINA, BY COUNTIES, 1889.

Counties.	Production.	Counties.	Production.
Burke .....	\$8,383.91	Macon .....	400.00
Caldwell .....	215.43	Moore .....	2,294.70
Cabarrus .....	19,896.60	McDowell .....	7,586.25
Clay .....	180.00	Nash .....	3,033.00
Davidson .....	100.00	Polk .....	761.60
Franklin .....	1,000.00	Randolph .....	29,355.65
Guilford .....	419.10	Rutherford .....	1,663.85
Gaston .....	15,119.49	Rowan .....	4,362.50
Henderson .....	213.75	Stanly .....	4,392.75
Iredell .....	97.65	Union .....	9,156.57
Jackson .....	150.00	Warren .....	500.00
Lincoln .....	621.70	Miscellaneous .....	6,563.00
Mecklenburgh .....	6,615.90		
Montgomery .....	26,040.00	Total .....	149,128.40

Mining in this State seems to be settling down to a steadier and less speculative condition of affairs, with one or two exceptions.

The Phoenix, in Cabarrus County, continues to produce steadily; the New Hoover Hill (English company), in Randolph County, was a good producer in 1889.

SOUTH CAROLINA.

The value of the precious metal product of South Carolina in 1889 was \$47,022.84, being an increase of some \$7,000 over that of the preceding year.

The product for 1889 was as follows:

Metals.	Fine ounces.	Coining value.	Commercial value.
Gold .....	2,266.506	\$46,852.84	\$46,852.84
Silver .....	180.00	232.20	170.00
Total .....	2,446.506	47,085.04	47,022.84

The bulk of the product was from the counties of Chesterfield and Lancaster. The following is the production by counties:

PRODUCTION OF SOUTH CAROLINA, BY COUNTIES, 1889.

Counties.	Value of the product.
Chesterfield and Lancaster .....	\$42,384.49
Spartanburgh .....	668.82
Union .....	134.59
Miscellaneous .....	3,834.94
Total .....	47,022.84

It is believed that the product will be largely increased in 1890, owing to increased activity at the Brewer mine, in Chesterfield County, which has been one of the best properties in the South, the owners of which have erected a 40-stamp mill. The bulk of the product of the



past year is accredited to the Haile mine, in Lancaster County, as but little mining was done at the Brewer while the new mill was in course of erection.

GEORGIA.

The product of precious metals in Georgia increased from \$104,500 in 1888, to \$107,945.24 in 1889. The product for 1889 was as follows :

Metals.	Fine, ounces.	Coining value.	Commercial value.
Gold.....	5,205.403	\$107,605.24	\$107,605.24
Silver.....	360.00	464.40	340.00
Total .....	5,565.403	108,069.64	107,945.24

The distribution of the product by counties is exhibited in the following table :

PRODUCTION OF GEORGIA, BY COUNTIES, 1889.

Counties.	Value of the product.	Counties.	Value of the product.
Carroll.....	\$314.51	Meriwether.....	\$1,333.41
Cherokee.....	14,645.60	Rabun.....	1,040.95
Dawson.....	1,271.85	Warren.....	86.44
Forsythe.....	129.59	White.....	26,273.20
Habersham.....	895.06	Wilkes.....	104.61
Hall.....	750.00	Miscellaneous.....	15,285.08
Lumpkin.....	42,246.04	Total .....	107,945.24
McDuffie.....	3,568.90		

Increased activity is seen at the Hand properties in Lumpkin County, and at the White County mines. In Cherokee County the Franklin and Macdonald Mine continues to be a steady producer.

ALABAMA.

The product of the mines of Alabama for 1889 was \$2,623.15, viz :

Metals.	Fine, ounces.	Coining value.	Commercial value.
Gold.....	124.839	\$2,580.65	\$2,580.65
Silver.....	45.09	58.05	42.50
Total .....	169.839	2,638.70	2,623.15

The product by counties may be distributed as follows :

PRODUCTION BY COUNTIES, ALABAMA, 1889.

Counties.	Value of product.
Clay.....	\$861.50
Cleburne.....	300.38
Tallapoosa.....	461.27
Miscellaneous.....	1,000.00
Total .....	2,623.15

STATES OF THE APPALACHIAN RANGE.

SUMMARY OF PRODUCT OF PRECIOUS METALS, 1889.

States.	Gold.		Silver.		Total gold and silver.	
	Fine, ounces.	Value.	Fine, ounces.	Coining value.	Fine, ounces.	Value.
Virginia .....	198.338	\$4,100.00	10.60	\$12.70	208.938	\$4,112.70
North Carolina .....	7,077.025	146,295.10	3,000.00	3,878.70	10,077.025	150,173.80
South Carolina .....	2,266.506	46,852.84	180.00	232.20	2,446.506	47,085.04
Georgia.....	5,205.403	107,605.24	360.00	464.40	5,565.403	108,069.64
Alabama .....	124.839	2,580.65	45.00	58.05	169.839	2,638.70
Total .....	14,872.111	307,433.83	3,595.60	4,646.05	18,467.711	312,079.88

The foregoing estimates are based upon deposits at the mints and assay offices, shipments from mining localities, reports from mines and reduction works, and from correspondence with individuals best acquainted with mining sections. Whenever reports were not furnished, or wherever the reported product seemed exaggerated, I visited the properties, and generally succeeded in eliciting the desired reports and a satisfactory statement.

The estimates for North Carolina, South Carolina, and Georgia are probably very correct; but there is not so much certainty in regard to those for Virginia and Alabama, as the operations are small and scattering. However, the possible error probably does not exceed \$1,000, which would be an under-estimate, of course.

PRESENT CONDITION OF THE MINING INDUSTRY IN THE SOUTH.

The sulphurette problem is at present attracting much attention. Reduction works have been erected, and the erection of others is contemplated.

The best known of the processes for reducing auriferous sulphurettes is the Thies chlorination process. This process has been applied to the ores of the Haile and Phoenix for the entire year, with very satisfactory results.

The Electric Reduction Works, at Indian Trail, N. C., have the same object in view by a different treatment.

The Piedmont Reduction Works, at Thomasville, N. C., have been started up to treat the zinc silver-bearing ores of the Silver Valley Mine.

Milling is also receiving attention. Some of the recently constructed and improved mills, and others that are in process of construction, are not excelled by any in the country. All the latest automatic devices are incorporated in the Russell, New Hoover Hill, Appalachian, Haile, and Brewer Mines. There is considerable improvement in hydraulic mining and milling.

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PART III.

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GENERAL STATISTICS.

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## I.—DEPOSITS AND PURCHASES OF GOLD AND SILVER, BY WEIGHT,

Description.	COINAGE MINTS.			
	Philadelphia.	San Francisco.	Carson.	New Orleans.
<b>GOLD.</b>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>
Domestic bullion .....	6, 475. 736	907, 881. 790	62, 018. 448	95. 621
Domestic coin .....	8, 148. 504	51. 520		2, 692. 912
Foreign bullion .....	4, 135. 312	49, 699. 085		1, 267. 290
Foreign coin .....	104. 254	181, 271. 664		501. 557
Jewelers' bars, old plate, etc. ....	49, 360. 770	1, 176. 623		1, 888. 553
Total .....	68, 224. 576	1, 140, 080. 682	62, 018. 448	6, 445. 933
Re-deposits:				
Fine bars .....				
Unparted bars .....	177, 738. 924			
Total gold received .....	245, 963. 500	1, 140, 080. 682	62, 018. 448	6, 445. 933
<b>SILVER.</b>				
Domestic bullion .....	17, 110, 530. 77	1, 683, 752. 72	1, 377, 424. 29	9, 638, 747. 68
Domestic coin .....	547, 164. 34	76, 526. 08		1, 457. 26
Trade dollars .....	4, 657. 40	74. 82		19. 96
Foreign bullion .....	4, 023. 30	376, 201. 71		16, 268. 50
Foreign coin .....	3, 282. 07	9. 44		333, 509. 90
Jewelers' bars, old plate, etc. ....	230, 075. 72	682. 44		13, 910. 17
Total .....	17, 899, 733. 60	2, 137, 247. 21	1, 377, 424. 29	10, 003, 913. 47
Re-deposits:				
Fine bars .....	36, 620. 61			
Unparted bars .....	150, 669. 38			
Total silver received .....	18, 087, 023. 59	2, 137, 247. 21	1, 377, 424. 29	10, 003, 913. 47
Gold and silver deposits and purchases	17, 967, 958. 176	3, 277, 327. 892	1, 439, 442. 738	10, 010, 359. 403
Re-deposits:				
Gold .....	177, 738. 924			
Silver .....	187, 289. 99			
Total gold and silver received...	18, 332, 987. 090	3, 277, 327. 892	1, 439, 442. 738	10, 010, 359. 403

DURING THE CALENDAR YEAR ENDED DECEMBER 31, 1889.

ASSAY OFFICES.						Total.
New York.	Denver.	Bois6.	Helena.	Charlotte.	St. Louis.	
<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Stand'd ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>
562,730.309	68,865.894	28,121.178	58,462.239	9,321.440	13,826.033	1,717,798.788
24,002.560	137.198	-----	84.093	-----	480.673	35,597.460
70,717.042	-----	-----	-----	-----	-----	125,818.729
33,224.869	-----	-----	-----	57.003	64,473	215,223.820
139,162.593	510.580	-----	201.056	85.099	2,883.289	195,268.563
829,837.373	69,513.672	28,121.178	58,747.488	9,463.542	17,254.468	2,289,707.360
152,431.593	-----	-----	-----	-----	-----	152,431.593
203.581	393.837	6,719.712	1,065.315	6.842	272.985	186,401.196
982,472.547	69,907.509	34,840.890	59,812.803	9,470.384	17,527.453	2,628,540.149
3,569,466.10	17,049.77	23,310.43	26,536.41	978.46	7,009.47	33,454,806.10
1,288.12	-----	-----	.48	-----	1.90	626,438.18
593.16	-----	-----	-----	-----	-----	5,345.34
633,016.14	-----	-----	-----	-----	-----	1,029,509.65
39,885.99	-----	-----	-----	28.13	-----	376,715.53
334,470.92	280.15	-----	206.92	35.35	1,735.39	581,397.06
4,578,720.43	17,329.92	23,310.43	26,743.81	1,041.94	8,746.76	36,074,211.86
31,323.80	-----	-----	-----	-----	-----	67,944.41
1,192.91	224.70	2,683.28	390.73	1.26	245.48	155,407.74
4,611,237.14	17,554.62	25,993.71	27,134.54	1,043.20	8,992.24	36,297,564.01
5,408,557.803	86,843.592	51,431.608	85,491.298	10,505.482	26,001.228	38,363,919.220
152,635.174	393.837	6,719.712	1,065.315	6.842	272.985	338,832.789
32,516.71	224.70	2,683.28	390.73	1.26	245.48	223,352.15
5,593,709.687	87,462.129	60,834.600	86,947.343	10,513.584	26,519.693	38,926,104.159

## II.—DEPOSITS AND PURCHASES OF GOLD AND SILVER, BY

Description.	COINAGE MINTS.			
	Philadelphia.	San Francisco.	Carson.	New Orleans.
<b>GOLD.</b>				
Domestic bullion .....	\$120, 478. 81	\$16, 890, 823. 98	\$1, 153, 831. 59	\$1, 778. 99
Domestic coin .....	151, 600. 07	958. 51	.....	50, 100. 69
Foreign bullion .....	76, 936. 03	924, 634. 14	.....	23, 577. 49
Foreign coin .....	1, 939. 61	3, 372, 496. 08	.....	9, 331. 29
Jewelers' bars, old plate, etc. ....	918, 339. 91	21, 890. 66	.....	35, 135. 87
Total .....	1, 269, 294. 43	21, 210, 803. 37	1, 153, 831. 59	119, 924. 33
Re-deposits :				
Fine bars .....				
Unparted bars .....	3, 306, 770. 68			
Total gold received .....	4, 576, 065. 11	21, 210, 803. 37	1, 153, 831. 59	119, 924. 33
<b>SILVER.</b>				
Domestic bullion .....	19, 910, 435. 77	1, 959, 275. 87	1, 602, 820. 97	11, 215, 997. 28
Domestic coin .....	636, 700. 32	89, 048. 53	.....	1, 695. 72
Trade dollars .....	5, 419. 52	87. 06	.....	23. 23
Foreign bullion .....	4, 681. 66	437, 761. 99	.....	18, 930. 62
Foreign coin .....	3, 819. 14	10. 98	.....	388, 084. 24
Jewelers' bars, old plate, etc. ....	267, 724. 47	794. 11	.....	16, 136. 38
Total .....	20, 828, 780. 88	2, 486, 978. 54	1, 602, 820. 97	11, 640, 917. 47
Re-deposits :				
Fine bars .....	42, 613. 07			
Unparted bars .....	175, 324. 37			
Total silver received .....	21, 046, 718. 32	2, 486, 978. 54	1, 602, 820. 97	11, 640, 917. 47
Gold and silver deposits and purchases.	22, 098, 075. 31	23, 697, 781. 91	2, 756, 652. 56	11, 760, 841. 80
Re-deposits :				
Gold .....	3, 306, 770. 68			
Silver .....	217, 937. 44			
Total gold and silver received ...	25, 622, 783. 43	23, 697, 781. 91	2, 756, 652. 56	11, 760, 841. 80



VALUE, DURING THE CALENDAR YEAR ENDED DECEMBER 31, 1889.

ASSAY OFFICES.						Total.
New York.	Denver.	Boisé.	Helena.	Charlotte.	St. Louis.	
\$10,469,401.07	\$1,281,225.93	\$523,184.70	\$1,087,671.43	\$173,422.13	\$257,228.52	\$31,959,047.15
446,559.26	2,552.52	.....	1,564.52	.....	8,942.75	662,278.32
1,315,665.90	.....	.....	.....	.....	.....	2,340,813.56
618,137.10	.....	.....	.....	1,060.52	1,199.50	4,004,164.10
2,589,071.50	9,499.16	.....	3,740.57	1,583.24	53,642.58	3,632,903.49
15,438,834.83	1,293,277.61	523,184.70	1,092,976.52	176,065.89	321,013.35	42,599,206.62
2,835,936.62	.....	.....	.....	.....	.....	2,835,936.62
3,787.55	7,327.20	125,017.90	19,819.81	127.29	5,078.79	3,467,929.22
18,278,559.00	1,300,604.81	648,202.60	1,112,796.33	176,193.18	326,092.14	48,903,072.46
4,153,560.52	19,839.74	27,124.87	30,878.72	1,138.57	8,156.47	38,929,228.78
1,498.91	.....	.....	.56	.....	2.21	728,946.25
690.22	.....	.....	.....	.....	.....	6,220.03
736,600.60	.....	.....	.....	.....	.....	1,197,974.87
46,412.79	.....	.....	.....	32.73	.....	438,359.88
389,202.52	325.99	.....	240.78	41.13	2,019.36	676,534.74
5,327,965.56	20,165.73	27,124.87	31,120.06	1,212.43	10,178.04	41,977,264.55
36,449.51	.....	.....	.....	.....	.....	79,062.58
1,388.11	261.46	3,122.36	454.66	1.46	285.66	180,838.08
5,365,803.18	20,427.19	30,247.23	31,574.72	1,213.89	10,463.70	42,237,165.21
20,766,800.39	1,313,443.34	550,309.57	1,124,096.58	177,278.32	331,191.39	84,576,471.17
2,839,724.17	7,327.20	125,017.90	19,819.81	127.29	5,078.79	6,303,865.84
37,837.62	261.46	3,122.36	454.66	1.46	285.66	259,900.66
23,644,362.18	1,321,032.00	678,449.83	1,144,371.05	177,407.07	336,555.84	91,140,237.67

III.—DEPOSITS OF UNREFINED GOLD OF DOMESTIC PRODUCTION WITH THE STATES  
DISTRIBUTED, BY WEIGHT, DURING THE

Locality.	COINAGE MINTS.			
	Philadelphia.	San Francisco.	Carson.	New Orleans.
	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>
Alabama .....				16. 145
Alaska .....	43. 647	5, 283. 519		
Arizona .....	416. 905	14, 747. 248		
California .....	99. 578	148, 210. 432	336. 683	
Colorado .....	386. 583			
Dakota .....	893. 505			
Georgia .....	1, 165. 800			
Idaho .....	195. 976	8, 335. 211		
Maryland .....	29. 990			
Michigan .....				
Montana .....	40. 787	1, 225. 880		
Nevada .....	474. 973	10, 214. 504	61, 687. 765	
New Hampshire .....				
New Mexico .....	62. 666	246. 926		
North Carolina .....	962. 191			
Oregon .....	127. 157	9, 195. 931		
South Carolina .....				
Tennessee .....	8. 503			
Texas .....				79. 476
Utah .....	701. 150	1, 890. 510		
Virginia .....	64. 989			
Washington .....		1, 075. 571		
Wyoming .....	141. 261			
Other sources .....	660. 075	39. 950		
Total unrefined .....	6, 475. 736	200, 465. 682	62, 018. 448	95. 621
Refined .....		707, 416. 108		
Grand total .....	6, 475. 736	907, 881. 790	62, 018. 448	95. 621

AND TERRITORIES PRODUCING THE SAME, AND OF REFINED DOMESTIC BULLION NOT  
CALENDAR YEAR ENDED DECEMBER 31, 1889.

ASSAY OFFICES.						Total.
New York.	Denver.	Boisé.	Helena.	Charlotte.	St. Louis.	
<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>
39. 221				24. 461	45. 519	125. 346
						5, 327. 166
596. 086	30. 006				60. 273	15, 850. 518
2, 253. 281			98. 373		65. 558	151, 057. 905
44, 984. 655	62, 878. 605		3. 126		2, 458. 548	110, 711. 517
150, 511. 662						151, 405. 167
38. 935				3, 756. 780		4, 961. 515
4, 117. 030	87. 516	25, 674. 219	8, 264. 932		428. 939	47, 103. 823
						29. 990
3, 747. 433						3, 747. 433
43, 547. 471	97. 435		49, 448. 435			94, 360. 028
131. 664						72, 503. 906
25. 872						25. 872
13, 097. 729	3, 601. 200				10, 728. 615	27, 737. 136
276. 524				3, 125. 588		4, 364. 303
	1, 895. 475	2, 446. 959				13, 665. 522
				2, 414. 611		2, 414. 611
12. 961						21. 464
						79. 476
485. 209						3, 076. 869
75. 213						140. 202
72. 990			647. 473			1, 796. 034
	275. 637					416. 898
54, 620. 566					38. 581	55, 359. 172
318, 634. 502	68, 865. 894	28, 121. 178	58, 462. 339	9, 321. 440	13, 826. 033	766, 286. 873
244, 095. 807						951, 511. 915
562, 730. 309	68, 865. 894	28, 121. 178	58, 462. 339	9, 321. 440	13, 826. 033	1, 717, 798. 788



**IV.**—DEPOSITS OF UNREFINED GOLD OF DOMESTIC PRODUCTION WITH THE STATES  
NOT DISTRIBUTED, BY VALUE, DURING THE

Locality.	COINAGE MINTS.			
	Philadelphia.	San Francisco.	Carson.	New Orleans.
Alabama .....				\$300.37
Alaska .....	\$812.04	\$98,298.03		
Arizona .....	7,756.37	274,367.40		
California .....	1,852.61	2,757,403.38	\$6,152.24	
Colorado .....	7,192.24			
Dakota .....	16,623.35			
Georgia.....	21,689.31			
Idaho .....	3,646.06	155,073.69		
Maryland .....	557.95			
Michigan.....				
Montana .....	758.83	22,807.07		
Nevada.....	8,836.71	190,037.28	1,147,679.35	
New Hampshire .....				
New Mexico .....	1,165.88	4,593.97		
North Carolina.....	17,401.23			
Oregon .....	2,365.71	171,087.09		
South Carolina.....				
Tennessee.....	158.20			
Texas .....				1,478.62
Utah .....	13,044.65	35,172.28		
Virginia.....	1,209.10			
Washington.....		20,010.62		
Wyoming .....	2,628.11			
Other sources.....	12,280.46	743.26		
Total unrefined.....	120,478.81	3,729,594.07	1,153,831.59	1,778.99
Refined .....		13,161,229.91		
Grand total .....	120,478.81	16,890,823.98	1,153,831.59	1,778.99

AND TERRITORIES PRODUCING THE SAME, AND OF REFINED DOMESTIC BULLION  
CALENDAR YEAR ENDED DECEMBER 31, 1889.

ASSAY OFFICES.						Total.
New York.	Denver.	Boisé.	Helena.	Charlotte.	St. Louis.	
\$729. 69				\$455. 09	\$846. 86	\$2, 332. 01
						99, 110. 07
11, 089. 97	\$558. 26				1, 121. 36	204, 803. 36
41, 921. 51			\$1, 830. 19		1, 219. 68	2, 810, 379. 61
836, 923. 81	1, 169, 834. 51		58. 15		45, 740. 43	2, 059, 749. 14
2, 800, 216. 97						2, 816, 840. 32
724. 37				69, 893. 58		92, 307. 26
76, 595. 91	1, 628. 20	\$477, 659. 89	153, 766. 20		7, 980. 26	876, 350. 21
						557. 95
69, 719. 68						69, 719. 68
810, 185. 51	1, 813. 12		919, 970. 88			1, 755, 535. 41
2, 449. 56						1, 349, 002. 90
481. 34						481. 34
243, 678. 68	66, 999. 06				199, 602. 14	516, 030. 73
5, 144. 63				58, 150. 47		81, 196. 33
	35, 264. 65	45, 524. 81				254, 242. 26
				44, 922. 99		44, 922. 99
241. 13						399. 33
						1, 478. 62
9, 027. 14						57, 244. 07
1, 399. 31						2, 608. 41
1, 357. 95			12, 046. 01			33, 414. 58
	5, 128. 13					7, 756. 24
1, 016, 196. 58					717. 79	1, 029, 938. 09
5, 928, 083. 74	1, 281, 225. 93	523, 184. 70	1, 087, 671. 43	173, 422. 13	257, 228. 52	14, 256, 499. 91
4, 541, 317. 33						17, 702, 547. 24
10, 469, 401. 07	1, 281, 225. 93	523, 184. 70	1, 087, 671. 43	173, 422. 13	257, 228. 52	31, 950, 047. 15

V.—DEPOSITS OF UNREFINED SILVER OF DOMESTIC PRODUCTION WITH THE STATES  
DISTRIBUTED, BY WEIGHT, DURING THE

Locality.	COINAGE MINTS.			
	Philadelphia.	San Francisco.	Carson.	New Orleans.
	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>
Alabama .....				
Alaska .....	12. 19	958. 43		
Arizona .....	217. 32	3, 573. 95		176. 81
California .....	34. 12	20, 287. 46	320. 65	
Colorado .....	329. 95			
Dakota .....	66. 61			
Georgia .....	99. 61			
Idaho .....	19. 11	3, 082. 39		
Maryland .....	8. 51			
Michigan .....	5, 632. 60			
Montana .....	17. 38	132. 80		
Nevada .....	215. 54	24, 959. 60	1, 377, 103. 64	
New Hampshire .....				
New Mexico .....	1. 68	97. 95		539. 15
North Carolina .....	102. 45			
Oregon .....	18. 90	1, 553. 17		
South Carolina .....				
Tennessee .....	. 53			
Texas .....				2, 337. 92
Utah .....	41. 43	349. 51		
Virginia .....	2. 17			
Washington .....		148. 29		
Wyoming .....	16. 27			
Other sources .....	208. 10	12. 52		
Total unrefined .....	7, 144. 47	55, 156. 07	1, 377, 424. 29	3, 053. 88
Refined .....	17, 103, 386. 30	1, 628, 596. 65		9, 635, 693. 80
Grand total .....	17, 110, 530. 77	1, 683, 752. 72	1, 377, 424. 29	9, 638, 747. 68



AND TERRITORIES PRODUCING THE SAME, AND OF REFINED DOMESTIC BULLION NOT  
CALENDAR YEAR ENDED DECEMBER 31, 1889.

ASSAY OFFICES.						Total.
New York.	Denver.	Boisé.	Helena.	Charlotte.	St. Louis.	
<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>
				7.20	15.48	22.68
						970.62
19,711.83	11.13				21.10	23,712.14
24.56			13.26		13.87	20,693.92
10,124.04	15,896.59		1.93		924.43	27,276.94
28,977.59						29,044.20
1.15				235.17		335.93
35,544.00	27.16	22,842.51	1,552.49		75.70	63,143.36
						8.51
57,345.29						62,977.89
269,023.55	16.97		24,846.91			294,037.61
2,151.38						1,404,430.16
1.50						1.50
131,202.35	674.53					132,515.66
30.16				619.33	5,953.87	6,705.81
	390.34	467.92				2,430.33
				116.76		116.76
						.53
						2,337.92
13,264.64						13,655.58
4.19						6.36
2,151.92			121.82			2,422.03
	33.05					49.32
162,445.45					5.02	162,771.09
732,003.60	17,049.77	23,310.43	26,536.41	978.46	7,009.47	2,240,666.85
2,837,462.50						31,205,139.25
3,569,466.10	17,049.77	23,310.43	26,536.41	978.46	7,009.47	33,454,806.10

VI.—DEPOSITS OF UNREFINED SILVER OF DOMESTIC PRODUCTION WITH THE STATES  
DISTRIBUTED, BY VALUE, DURING THE CAL-

Locality.	COINAGE MINTS.			
	Philadelphia.	San Francisco.	Carson.	New Orleans.
Alabama.....				
Alaska.....	\$14. 18	\$1, 115. 26		
Arizona.....	252. 88	4, 158. 78		\$205. 74
California.....	39. 70	23, 607. 23	\$373. 12	
Colorado.....	383. 94			
Dakota.....	77. 51			
Georgia.....	115. 91			
Idaho.....	22. 24	3, 586. 78		
Maryland.....	9. 90			
Michigan.....	6, 554. 30			
Montana.....	20. 22	154. 53		
Nevada.....	250. 81	29, 043. 90	1, 602, 447. 85	
New Hampshire.....				
New Mexico.....	1. 95	113. 98		627. 37
North Carolina.....	119. 21			
Oregon.....	21. 99	1, 807. 32		
South Carolina.....				
Tennessee.....	. 62			
Texas.....				2, 720. 48
Utah.....	48. 21	406. 70		
Virginia.....	2. 53			
Washington.....		172. 56		
Wyoming.....	18. 93			
Other sources.....	358. 52	14. 57		
Total unrefined.....	8, 313. 55	64, 181. 61	1, 602, 820. 97	3, 553. 59
Refined.....	19, 932, 122. 22	1, 895, 094. 26		11, 212, 443. 69
Grand total.....	19, 910, 435. 77	1, 959, 275. 87	1, 602, 820. 97	11, 215, 997. 28

AND TERRITORIES PRODUCING THE SAME, AND OF REFINED DOMESTIC BULLION NOT  
 ENDAR YEAR ENDED DECEMBER 31, 1889.

ASSAY OFFICES.						Total.
New York.	Denver.	Boisé.	Helena.	Charlotte.	St. Louis.	
				\$8.38	\$18.01	\$26.39
						1,129.44
\$22,937.40	\$12.95				24.55	27,592.30
28.58			\$15.43		16.14	24,080.20
11,780.70	18,497.84		2.25		1,075.70	31,740.43
33,719.37						33,796.88
1.34				273.65		390.90
41,360.29	31.60	\$26,580.38	1,806.53		88.09	73,475.91
						9.90
66,729.06						73,283.36
313,045.58	19.78		28,912.76			342,152.87
2,503.42						1,634,245.98
1.75						1.75
152,671.82	784.90					154,200.02
35.10				720.67	6,928.14	7,803.12
	454.21	544.49				2,828.01
				135.87		135.87
						.62
						2,720.48
15,435.22						15,890.13
4.88						7.41
2,504.05			141.75			2,818.36
	38.46					57.39
189,027.43					5.84	189,406.36
851,785.99	19,839.74	27,124.87	30,878.72	1,138.57	8,156.47	2,617,794.08
3,301,774.53						36,311,434.70
4,153,560.52	19,839.74	27,124.87	30,878.72	1,138.57	8,156.47	38,929,228.78



VII.—BARS MANUFACTURED OF GOLD AND SILVER, BY WEIGHT,

Description.	COINAGE MINTS.			
	Philadelphia.	San Francisco.	Carson.	New Orleans.
GOLD.	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>
Fine bars .....	37, 526. 569	.....	.....	7. 339
Mint bars .....	.....	.....	.....	.....
Standard bars .....	.....	.....	.....	.....
Sterling bars .....	.....	.....	.....	.....
Unparted bars .....	.....	.....	.....	.....
Total gold .....	37, 526. 569	.....	.....	7. 339
SILVER.	.....	.....	.....	.....
Fine bars .....	12, 055. 40	313, 824. 08	523, 905. 09	.....
Mint bars .....	.....	.....	.....	.....
Standard bars .....	.....	.....	.....	.....
Sterling bars .....	.....	.....	.....	.....
Unparted bars .....	.....	.....	.....	.....
Total silver .....	12, 055. 40	313, 824. 08	523, 905. 09	.....

VIII.—BARS MANUFACTURED OF GOLD AND SILVER, BY VALUE,

Description.	COINAGE MINTS.			
	Philadelphia.	San Francisco.	Carson.	New Orleans.
GOLD.	.....	.....	.....	.....
Fine bars .....	\$698, 168. 72	.....	.....	\$136. 54
Mint bars .....	.....	.....	.....	.....
Standard bars .....	.....	.....	.....	.....
Sterling bars .....	.....	.....	.....	.....
Unparted bars .....	.....	.....	.....	.....
Total gold .....	698, 168. 72	.....	.....	136. 54
SILVER.	.....	.....	.....	.....
Fine bars .....	14, 028. 10	\$365, 177. 11	\$609, 635. 01	.....
Mint bars .....	.....	.....	.....	.....
Standard bars .....	.....	.....	.....	.....
Sterling bars .....	.....	.....	.....	.....
Unparted bars .....	.....	.....	.....	.....
Total silver .....	14, 028. 10	365, 177. 11	609, 635. 01	.....
Total value gold and silver .....	712, 196. 82	365, 177. 11	609, 635. 01	136. 54

DURING CALENDAR YEAR ENDED DECEMBER 31, 1889.

ASSAY OFFICES.						Total.
New York.	Denver.	Boisé.	Helena.	Charlotte.	St. Louis.	
<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>
925,757.554	-----	-----	-----	-----	-----	963,291.462
46,448.692	-----	-----	-----	-----	-----	46,448.692
-----	-----	-----	-----	-----	-----	-----
-----	69,907.509	34,840.890	59,812.803	9,470.384	17,527.453	191,559.039
972,206.246	69,907.509	34,840.890	59,812.803	9,470.384	17,527.453	1,201,299.193
-----	-----	-----	-----	-----	-----	-----
4,275,190.49	-----	-----	-----	-----	-----	5,124,975.06
99,113.03	-----	-----	-----	-----	-----	99,113.03
39,994.57	-----	-----	-----	-----	-----	39,994.57
-----	-----	-----	-----	-----	-----	-----
2,875.80	17,554.62	25,993.71	27,134.54	1,043.20	8,992.24	83,594.11
4,417,173.89	17,554.62	25,993.71	27,134.54	1,043.20	8,992.24	5,347,676.77

DURING CALENDAR YEAR ENDED DECEMBER 31, 1889.

ASSAY OFFICES.						Total.
New York.	Denver.	Boisé.	Helena.	Charlotte.	St. Louis.	
<i>\$</i>	<i>\$</i>	<i>\$</i>	<i>\$</i>	<i>\$</i>	<i>\$</i>	<i>\$</i>
\$17,223,396.35	-----	-----	-----	-----	-----	\$17,921,701.61
864,161.71	-----	-----	-----	-----	-----	864,161.71
-----	-----	-----	-----	-----	-----	-----
-----	\$1,300,604.81	\$648,202.60	\$1,112,796.23	\$176,193.18	\$326,092.14	3,563,888.96
18,087,558.06	1,300,604.81	648,202.60	1,112,796.23	176,193.18	326,092.14	22,349,752.28
-----	-----	-----	-----	-----	-----	-----
4,974,767.11	-----	-----	-----	-----	-----	5,963,607.33
115,331.52	-----	-----	-----	-----	-----	115,331.52
46,539.13	-----	-----	-----	-----	-----	46,539.13
-----	-----	-----	-----	-----	-----	-----
3,346.38	20,427.19	30,247.23	31,574.72	1,213.89	10,463.70	97,273.11
5,139,984.14	20,427.19	30,247.23	31,574.72	1,213.89	10,463.70	6,222,751.09
23,227,542.20	1,321,032.00	678,449.83	1,144,370.95	177,407.07	336,555.84	28,572,503.37

## IX.—COINAGE EXECUTED AT THE MINTS OF THE UNITED STATES

Denomination.	PHILADELPHIA.		SAN FRANCISCO.	
	Pieces.	Value.	Pieces.	Value.
<b>GOLD.</b>				
Double-eagles .....	44, 111	\$882, 220. 00	774, 700	\$15, 494, 000. 00
Eagles .....	4, 485	44, 850. 00	425, 400	4, 254, 000. 00
Half-eagles .....	7, 565	37, 825. 00	.....	.....
Three dollars .....	2, 429	7, 287. 00	.....	.....
Quarter-eagles .....	17, 648	44, 120. 00	.....	.....
Dollars .....	30, 729	30, 729. 00	.....	.....
Total gold .....	106, 967	1, 047, 031. 00	1, 200, 100	19, 748, 000. 00
<b>SILVER.</b>				
Dollars .....	21, 726, 811	21, 726, 811. 00	700, 000	700, 000. 00
Subsidiary:				
Half-dollars .....	12, 711	6, 355. 50	.....	.....
Quarter-dollars .....	12, 711	3, 177. 75	.....	.....
Dimes .....	7, 380, 711	738, 071. 10	972, 678	97, 267. 80
Total subsidiary .....	7, 406, 133	747, 604. 35	972, 678	97, 267. 80
Totalsilver .....	29, 132, 944	22, 474, 415. 35	1, 672, 678	797, 267. 80
<b>MINOR.</b>				
Five cents .....	15, 881, 361	794, 068. 05	.....	.....
Three cents .....	21, 561	646. 83	.....	.....
One cent .....	48, 869, 361	488, 693. 61	.....	.....
Total minor .....	64, 772, 283	1, 283, 408. 49	.....	.....
Total coinage .....	94, 012, 194	24, 804, 854. 84	2, 872, 778	20, 545, 267. 80



DURING THE CALENDAR YEAR ENDED DECEMBER 31, 1889.

CARSON.		NEW ORLEANS.		TOTAL.	
Pieces.	Value.	Pieces.	Value.	Pieces.	Value.
30,945	\$618,900.00			849,756	\$16,995,120.00
				429,885	4,298,850.00
				7,565	37,825.00
				2,429	7,287.00
				17,648	44,120.00
				30,729	30,729.00
30,945	618,900.00			1,338,012	21,413,931.00
350,000	350,000.00	11,875,000	\$11,875,000.00	34,651,811	34,651,811.00
				12,711	6,355.50
				* 12,711	3,177.75
				8,353,389	835,338.90
				8,378,811	844,872.15
350,000	350,000.00	11,875,000	11,875,000.00	43,030,622	35,496,683.15
				15,881,361	794,068.05
				21,501	646.83
				48,869,361	488,693.61
				64,772,283	1,283,408.49
380,945	968,900.00	11,875,000	11,875,000.00	109,140,917	58,194,022.64

## X.—VALUES OF FOREIGN COINS, JANUARY 1, 1890

Country.	Standard.	Monetary unit.	Value in terms of U. S. gold dollar.	Coins.
Argentine Republic .	Gold and silver	Peso . . . . .	\$0.965	Gold: argentine (\$4.824) and $\frac{1}{2}$ argentine. Silver: peso and divisions.
Austria-Hungary . . .	Silver . . . . .	Florin . . . . .	.345	Gold: 4 florins (\$1.929), 8 florins (\$3.858), ducat (\$2.287) and 4 ducats (\$9.158). Silver: 1 and 2 florins.
Belgium . . . . .	Gold and silver	Franc . . . . .	.193	Gold: 10 and 20 francs. Silver: 5 francs.
Bolivia . . . . .	Silver . . . . .	Boliviano . . . . .	.698	Silver: Boliviano and divisions.
Brazil . . . . .	Gold . . . . .	Milreis . . . . .	.546	Gold: 5, 10, and 20 milreis. Silver: $\frac{1}{2}$ , 1, and 2 milreis.
British Possessions N. A. (except New- foundland).	Gold . . . . .	Dollar . . . . .	1.00	
Central American States—				
Costa Rica . . . . .	Silver . . . . .	Peso . . . . .	.698	Silver: peso and divisions.
Guatemala . . . . .				
Honduras . . . . .				
Nicaragua . . . . .				
Salvador . . . . .				
Chili . . . . .	Gold and silver	Peso . . . . .	.912	Gold: escudo (\$1.824), doubloon (\$4.561), and condor (\$9.123). Silver: peso and divisions.
China . . . . .	Silver . . . . .	Tael { Shanghai Haikwan (customs).	1.031	
			1.148	
Colombia . . . . .	Silver . . . . .	Peso . . . . .	.698	Gold: condor (\$9.647) and double-condor. Silver: peso.
Cuba . . . . .	Gold and silver	Peso . . . . .	.926	Gold: doubloon (\$5.017). Silver: peso.
Denmark . . . . .	Gold . . . . .	Crown . . . . .	.268	Gold: 10 and 20 crowns.
Ecuador . . . . .	Silver . . . . .	Sucre . . . . .	.698	Gold: condor (\$9.647) and double-condor. Silver: sucre and divisions.
Egypt . . . . .	Gold . . . . .	Pound (100 piastres).	4.943	Gold: pound (100 piastres), 50 piastres, 20 piastres, 10 piastres, and 5 piastres. Silver: 1, 2, 5, 10, and 20 piastres.
Franco . . . . .	Gold and silver	Franc . . . . .	.193	Gold: 5, 10, 20, 50, and 100 francs. Silver: 5 francs.
German Empire . . . .	Gold . . . . .	Mark . . . . .	.238	Gold: 5, 10, and 20 marks.
Great Britain . . . . .	Gold . . . . .	Pound sterling .	4.866 $\frac{1}{2}$	Gold: sovereign (pound sterling) and $\frac{1}{2}$ sovereign.
Greece . . . . .	Gold and silver	Drachma . . . . .	.193	Gold: 5, 10, 20, 50, and 100 drachmas. Silver: 5 drachmas.
Haiti . . . . .	Gold and silver	Gourde . . . . .	.965	Silver: gourde.
India . . . . .	Silver . . . . .	Rupce . . . . .	.332	Gold: mohur (\$7.105). Silver: rupee and divisions.

## X.—VALUES OF FOREIGN COINS, JANUARY 1, 1890—Continued.

Country.	Standard.	Monetary unit.	Value in terms of U. S. gold dollar.	Coins.
Italy.....	Gold and silver	Lira.....	\$0.193	Gold: 5, 10, 20, 50, and 100 liras. Silver: 5 liras.
Japan.....	Gold and silver*	Yen... { Gold... { Silver...	.997 .752	Gold: 1, 2, 5, 10, and 20 yen. Silver: yen.
Liberia.....	Gold.....	Dollar.....	1.00	
Mexico.....	Silver.....	Dollar.....	.758	Gold: dollar (\$0.983), 2½, 5, 10, and 20 dollars. Silver: dollar (or peso) and divisions.
Netherlands.....	Gold and silver	Florin.....	.402	Gold: 10 florins. Silver: ½, 1, and 2½ florins.
Newfoundland.....	Gold.....	Dollar.....	1.014	Gold: 2 dollars (\$2.027+).
Norway.....	Gold.....	Crown.....	.268	Gold: 10 and 20 crowns.
Peru.....	Silver.....	Sol.....	.698	Silver: sol and divisions.
Portugal.....	Gold.....	Milreis.....	1.08	Gold: 1, 2, 5, and 10 milreis.
Russia.....	Silver.....	Rouble.....	.558	Gold: imperial (\$7.718), and ½ im- perial † (\$3.860). Silver: ¼, ½, and 1 rouble.
Spain.....	Gold and silver	Peseta.....	.193	Gold: 25 pesetas. Silver: 5 peso- tas.
Sweden.....	Gold.....	Crown.....	.268	Gold: 10 and 20 crowns.
Switzerland.....	Gold and silver	Franc.....	.193	Gold: 5, 10, 20, 50, and 100 francs. Silver: 5 francs.
Tripoli.....	Silver.....	Mahbub ef 20 piastros.	.629	
Turkey.....	Gold.....	Piastro.....	.044	Gold: 25, 50, 100, 250, and 500 piastros.
Venezuela.....	Silver.....	Bolivar.....	.140	Gold: 5, 10, 20, 50, and 100 bolivars. Silver: 5 bolivars.

\* Gold the nominal standard. Silver practically the standard.

† Coined since January 1, 1886. Old half-imperial = \$3.956.



**XI.—GOLD AND SILVER BULLION OPERATED UPON IN THE REFINERIES OF THE MINT AT PHILADELPHIA, SAN FRANCISCO, NEW ORLEANS, AND CARSON, AND THE ASSAY OFFICE AT NEW YORK DURING THE CALENDAR YEAR ENDED DECEMBER 31, 1889.**

Months.	MINT AT PHILADELPHIA.			MINT AT SAN FRANCISCO.		
	Bullion containing gold.		Bullion free from gold.	Bullion containing gold.		Bullion free from gold.
	Gold.	Silver.	Silver.	Gold.	Silver.	Silver.
1889.	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>
January .....	20, 203. 877	14, 679. 28	35, 462. 73	16, 035. 595	58, 965. 16	21, 080. 65
February .....	22, 262. 225	15, 022. 70	37, 453. 77	14, 743. 243	59, 629. 58	.....
March .....	16, 101. 086	10, 202. 69	38, 352. 91	17, 024. 177	2, 906. 40	.....
April .....	17, 028. 540	19, 016. 28	22, 025. 59	20, 590. 082	3, 283. 08	.....
May .....	35, 299. 486	28, 171. 31	69, 710. 86	21, 870. 838	4, 486. 06	161. 26
June .....	868	25. 39	.....	15, 679. 832	57, 207. 85	230. 00
July .....	22, 243. 758	15, 287. 32	40, 845. 62	.....	.....	.....
August .....	23, 224. 814	31, 147. 09	30, 793. 55	26, 181. 011	42, 791. 07	.....
September .....	18, 501. 489	12, 994. 59	32, 851. 20	18, 813. 983	82, 817. 67	.....
October .....	19, 772. 464	8, 665. 39	42, 092. 99	20, 014. 611	24, 025. 72	7, 088. 29
November .....	28, 002. 295	16, 631. 70	56, 508. 53	21, 269. 590	12, 952. 55	59, 635. 25
December .....	25, 216. 526	16, 288. 57	50, 585. 82	17, 479. 575	85, 750. 11	488. 82
Total bullion.	247, 857. 428	188, 132. 31	456, 683. 57 188, 132. 31	209, 702. 537	434, 815. 25	88, 684. 27 434, 815. 25
Total silver.	.....	.....	644, 815. 88	.....	.....	523, 499. 52
MINT AT CARSON.			MINT AT NEW ORLEANS.			
January .....	5, 399. 700	106, 388. 30	3, 283. 28	.....	.....	.....
February .....	3, 461. 803	85, 910. 87	.....	2, 552. 863	6, 195. 43	.....
March .....	3, 924. 042	99, 997. 87	.....	.....	.....	.....
April .....	2, 776. 003	64, 451. 64	.....	.....	.....	.....
May .....	4, 787. 663	106, 941. 91	857. 32	.....	.....	.....
June .....	3, 977. 341	59, 653. 85	.....	.....	.....	.....
July .....	5, 230. 514	81, 400. 85	.....	.....	.....	.....
August .....	6, 832. 093	137, 209. 73	.....	.....	.....	.....
September .....	6, 394. 063	87, 309. 84	.....	.....	.....	.....
October .....	8, 925. 983	128, 597. 25	.....	.....	.....	.....
November .....	5, 895. 573	126, 725. 43	.....	.....	.....	.....
December .....	7, 574. 216	160, 006. 63	.....	3, 398. 751	7, 162. 45	.....
Total bullion.	65, 178. 991	1, 244, 594. 17	4, 140. 60 1, 244, 594. 17	5, 951. 614	13, 357. 88	13, 357. 88
Total silver.	.....	.....	1, 248, 734. 77	.....	.....	13, 357. 88
ASSAY OFFICE AT NEW YORK.						
January .....	55, 172. 000	108, 487. 00	76, 365. 00	.....	.....	.....
February .....	40, 111. 000	48, 584. 00	39, 789. 00	.....	.....	.....
March .....	37, 250. 600	67, 608. 00	37, 484. 00	.....	.....	.....
April .....	47, 942. 000	82, 168. 00	120, 095. 00	.....	.....	.....
May .....	52, 390. 000	90, 446. 00	143, 000. 00	.....	.....	.....
June .....	.....	.....	.....	.....	.....	.....
July .....	96, 137. 000	202, 496. 00	97, 390. 00	.....	.....	.....
August .....	48, 403. 000	86, 579. 00	63, 217. 00	.....	.....	.....
September .....	36, 686. 000	128, 226. 00	24, 292. 00	.....	.....	.....
October .....	55, 876. 000	166, 788. 00	27, 313. 00	.....	.....	.....
November .....	45, 342. 000	133, 110. 00	11, 092. 00	.....	.....	.....
December .....	42, 439. 000	131, 557. 00	32, 946. 00	.....	.....	.....
Total bullion.	557, 748. 000	1, 246, 049. 00	672, 983. 00 1, 246, 049. 00	.....	.....	.....
Total silver.	.....	.....	1, 919, 032. 00	.....	.....	.....

RECAPITULATION.

Calendar year 1889.	BULLION CONTAINING GOLD.		BULLION FREE FROM GOLD.
	Gold.	Silver.	Silver.
	<i>Standard ounces.</i>	<i>Standard ounces.</i>	<i>Standard ounces.</i>
Mint at Philadelphia .....	247,857.428	188,132.31	456,683.57
Mint at San Francisco .....	209,702.537	434,815.25	88,684.27
Mint at Carson .....	65,178.994	1,244,594.17	4,140.60
Mint at New Orleans .....	5,951.614	13,357.88	-----
Assay Office at New York .....	557,748.000	1,246,049.00	672,983.00
Total .....	1,086,438.573	3,126,948.61	1,222,491.44
			3,126,948.61
Total silver .....			4,349,440.05

**XII.—UNREFINED GOLD AND SILVER OF DOMESTIC PRODUCTION, WITH THE STATES AND TERRITORIES PRODUCING THE SAME, AND REFINED DOMESTIC BULLION NOT DISTRIBUTED, BY VALUE, DEPOSITED AT THE MINTS AND ASSAY OFFICES, FROM THEIR ORGANIZATION TO THE CLOSE OF THE CALENDAR YEAR ENDED DECEMBER 31, 1889.**

Locality.	Gold.	Silver.	Total.
Alabama.....	\$233,964.00	\$134.45	\$234,098.45
Alaska.....	749,001.70	6,795.99	755,797.69
Arizona.....	4,915,243.13	13,798,710.04	18,713,953.17
California.....	753,235,678.39	4,054,996.66	757,290,675.05
Colorado.....	57,546,890.88	24,500,484.51	82,047,375.39
Dakota .....	34,942,925.70	868,271.35	35,811,197.05
Georgia.....	8,786,416.18	5,047.97	8,791,464.15
Idaho .....	31,454,092.32	1,800,607.30	33,254,699.62
Maine .....	5,638.20	22.02	5,660.22
Maryland .....	5,029.28	13.50	5,042.78
Michigan .....	167,918.78	3,808,355.22	3,976,274.00
Missouri.....	13.90	359.11	373.01
Montana.....	65,292,411.97	15,297,314.96	80,589,726.93
Nebraska .....	1,921.79	273,225.62	275,147.41
Nevada .....	27,237,579.73	96,690,709.88	123,928,289.61
New Hampshire .....	481.34	1.75	483.09
New Mexico.....	3,953,100.32	6,215,184.34	10,168,284.66
North Carolina .....	11,510,654.86	63,004.58	11,573,659.44
Oregon .....	26,156,425.61	75,210.35	26,231,635.96
South Carolina .....	1,753,237.41	2,086.23	1,755,323.64
Tennessee .....	89,282.76	10.89	89,293.65
Texas .....	3,528.16	3,059.00	6,587.16
Utah.....	1,028,253.12	19,139,836.27	20,168,089.39
Vermont.....	78,489.66	84.36	78,574.02
Virginia .....	1,739,213.91	336.96	1,739,550.87
Washington .....	561,326.51	5,909.70	567,236.21
Wyoming.....	790,150.89	12,527.52	802,678.41
Other sources.....	39,585,239.06	42,548,271.39	82,133,510.45
Total unrefined.....	1,065,824,109.56	229,170,571.92	1,294,994,681.48
Refined bullion .....	349,429,345.98	290,409,527.67	639,838,873.65
Grand total.....	1,415,253,455.54	519,580,099.59	1,934,833,555.13

XIII.—ASSETS AND LIABILITIES OF UNITED STATES  
ASSETS.

Institutions.	GOLD BULLION.		SILVER BULLION.	
	Standard weight.	Value.	Standard weight.	Value (cost).
COINAGE MINTS.				
	<i>Ounces.</i>		<i>Ounces.</i>	
Philadelphia .....	1, 446, 795. 268	\$26, 917, 121. 02	5, 453, 506. 96	\$5, 343, 741. 78
San Francisco .....	184, 671. 040	3, 435, 740. 23	1, 189, 520. 11	1, 028, 209. 91
New Orleans .....	36, 505. 134	679, 165. 28	874, 654. 83	741, 823. 25
Carson .....	110, 112. 122	2, 048, 597. 65	634, 072. 49	541, 959. 42
ASSAY OFFICES.				
New York .....	1, 826, 986. 447	33, 990, 445. 23	3, 516, 465. 75	3, 968, 043. 77
Denver.....	3, 980. 125	74, 048. 84	1, 066. 79	906. 77
Helena .....	3, 944. 907	73, 393. 63	1, 362. 30	1, 192. 92
Boisé .....	1, 342. 393	24, 974. 83	522. 60	444. 21
St. Louis.....	331. 925	6, 175. 34		
Charlotte.....	875. 157	16, 281. 98	86. 78	73. 66
Total.....	3, 615, 544. 518	67, 265, 944. 03	11, 671, 258. 61	11, 626, 395. 69

LIABILITIES.

Institutions.	Bullion fund.	Undeposited earnings.
COINAGE MINTS.		
Philadelphia .....	\$65, 684, 318. 84	
San Francisco .....	33, 142, 237. 68	
New Orleans .....	6, 268, 844. 25	\$73. 79
Carson .....	3, 335, 000. 00	93. 19
ASSAY OFFICES.		
New York .....	52, 653, 954. 27	2, 792. 25
Denver.....	117, 081. 36	992. 06
Helena .....	132, 437. 68	972. 66
Boisé .....	53, 333. 66	356. 46
St. Louis .....	50, 342. 58	248. 37
Charlotte.....	36, 075. 69	317. 54
Total.....	161, 473, 626. 01	5, 846. 32



## MINTS AND ASSAY OFFICES JANUARY 1, 1890.

## ASSETS.

Value of bullion shipped for coinage.	Gold coin.	Silver coin.	Minor coin.	Minor coin- age metals.	Deficiencies.	Total.
-----	\$1,062,423.50	\$32,825,606.42	\$399,038.86	\$66,043.31	-----	\$66,613,974.89
-----	1,801,440.00	26,856,894.56	-----	-----	\$413,557.96	33,535,842.66
-----	181,260.00	4,938,254.38	-----	-----	-----	6,540,502.91
-----	381,564.83	407,043.27	-----	-----	-----	3,379,165.17
-----	14,715,184.46	9,895.51	-----	-----	-----	52,683,568.97
-----	43,115.00	2.81	-----	-----	-----	118,073.42
-----	58,823.00	.79	-----	-----	-----	133,410.34
-----	28,269.82	1.26	-----	-----	-----	53,690.12
\$35,668.87	8,746.00	.74	-----	-----	-----	50,590.95
-----	20,035.00	2.59	-----	-----	-----	36,393.23
35,668.87	18,300,861.61	65,037,702.33	399,038.86	66,043.31	413,557.96	163,145,212.66

## LIABILITIES.

Seignorage on silver.	Unpaid depositors.	Minor coin profits.	Minor coin metal fund.	Unpaid cent depositors.	Total.
\$365,056.27	\$99,517.61	\$425,639.63	\$38,800.00	\$642.54	\$66,613,974.89
132,932.07	260,672.91	-----	-----	-----	33,535,842.66
271,557.35	27.52	-----	-----	-----	6,540,502.91
44,071.98	-----	-----	-----	-----	3,379,165.17
-----	26,822.45	-----	-----	-----	52,683,568.97
-----	-----	-----	-----	-----	118,073.42
-----	-----	-----	-----	-----	133,410.34
-----	-----	-----	-----	-----	53,690.12
-----	-----	-----	-----	-----	50,590.95
-----	-----	-----	-----	-----	36,393.23
813,617.67	387,040.49	425,639.63	38,800.00	642.54	163,145,212.66

**XIV.—IMPORTS AND EXPORTS OF GOLD AND SILVER COIN, BULLION, AND ORES INTO AND FROM THE UNITED STATES DURING THE YEAR ENDED DECEMBER 31, 1889.**

**IMPORTS.**

Customs districts and ports.	BULLION.		
	Gold.	Silver.	Total gold and silver bullion.
<b>NEW YORK.</b>			
January .....	\$44, 258	\$103, 493	\$147, 751
February .....	24, 818	99, 208	124, 026
March .....	25, 781	82, 908	108, 689
April .....	26, 336	88, 537	114, 873
May .....	59, 983	79, 009	138, 992
June .....	40, 201	75, 620	115, 821
July .....	49, 930	60, 408	110, 338
August .....	21, 437	59, 371	80, 808
September .....	29, 117	68, 682	97, 799
October .....	23, 600	8, 514	32, 114
November .....	55, 437	17, 800	73, 237
December .....	46, 120	31, 362	77, 482
Total .....	447, 018	774, 912	1, 221, 930
<b>SAN FRANCISCO.</b>			
January .....	25, 760	121, 466	147, 226
February .....	28, 404	184, 336	212, 740
March .....	13, 366	184, 030	197, 396
April .....	33, 328	210, 790	244, 118
May .....	35, 818	126, 330	162, 148
June .....	38, 220	167, 109	205, 329
July .....	48, 117	183, 612	231, 729
August .....	64, 563	218, 274	282, 837
September .....	180, 499	202, 456	382, 955
October .....	129, 020	159, 561	288, 581
November .....	61, 277	237, 263	298, 540
December .....	37, 314	203, 196	240, 510
Total .....	695, 686	2, 198, 423	2, 894, 109
<b>ALL OTHER PORTS.</b>			
January .....	54, 036	249, 708	303, 744
February .....	5, 535	141, 387	146, 922
March .....	32, 905	153, 585	186, 490
April .....	20, 499	177, 414	197, 913
May .....	18, 716	234, 922	253, 638
June .....	57, 942	232, 513	290, 455
July .....	44, 855	239, 985	284, 840
August .....	108, 885	226, 551	335, 436
September .....	23, 242	198, 582	221, 824
October .....	48, 575	215, 784	264, 359
November .....	57, 484	215, 793	273, 277
December .....	64, 621	193, 975	258, 596
Total .....	537, 295	2, 480, 199	3, 017, 494
Total imports (bullion) .....	1, 679, 999	5, 453, 534	7, 133, 533

## XIV.—IMPORTS AND EXPORTS OF GOLD AND SILVER, ETC.—Continued.

## IMPORTS—Continued.

Customs districts and ports.	COIN.						Total gold and silver coin.
	Gold.			Silver.			
	United States.	Foreign.	Total.	United States.	Foreign.	Total.	
NEW YORK.							
January .....	\$64, 913	\$396, 588	\$461, 501	\$12, 977	\$16, 803	\$29, 780	\$491, 281
February .....	25, 411	694, 696	720, 107	16, 041	52, 141	68, 182	788, 289
March .....	33, 854	461, 738	495, 592	12, 679	22, 207	34, 886	530, 478
April .....	16, 079	636, 729	652, 808	6, 911	74, 446	81, 357	734, 165
May .....	156, 510	397, 053	553, 563	14, 488	51, 749	66, 237	619, 800
June .....	249, 561	209, 547	459, 108	16, 118	6, 341	22, 459	481, 567
July .....	13, 801	661, 238	675, 039	7, 528	18, 851	26, 379	701, 418
August .....	114, 340	147, 148	261, 488	9, 862	20, 727	30, 589	292, 077
September .....	32, 742	6, 149	38, 891	4, 713	1, 441	6, 154	45, 045
October .....	218, 974	173, 417	392, 391	12, 321	89, 910	102, 231	494, 622
November .....	495, 764	100, 750	596, 514	14, 889	276, 237	291, 126	887, 640
December .....	166, 103	384, 144	550, 247	29, 756	79, 851	109, 607	659, 854
Total .....	1, 588, 052	4, 269, 197	5, 857, 249	158, 283	710, 704	868, 987	6, 726, 236
SAN FRANCISCO.							
January .....	12, 186	.....	12, 186	307	58, 315	58, 622	70, 808
February .....	7, 438	2, 018	9, 456	.....	47, 066	47, 066	56, 522
March .....	37, 579	7, 786	45, 365	600	56, 314	56, 914	102, 279
April .....	9, 075	.....	9, 075	702	43, 295	43, 997	53, 072
May .....	9, 170	7, 648	16, 818	.....	89, 924	89, 924	106, 742
June .....	11, 000	.....	11, 000	50	93, 579	93, 629	104, 629
July .....	10, 741	.....	10, 741	.....	60, 771	60, 771	71, 512
August .....	4, 174	1, 100	5, 274	.....	22, 986	22, 986	28, 260
September .....	16, 847	2, 098, 595	2, 115, 442	.....	95, 231	95, 231	2, 210, 673
October .....	3, 560	103, 172	106, 732	.....	112, 790	112, 790	219, 522
November .....	2, 000	982, 705	984, 705	.....	23, 039	23, 039	1, 007, 744
December .....	592	594, 799	595, 391	.....	36, 877	36, 877	632, 268
Total .....	124, 362	3, 797, 823	3, 922, 185	1, 659	740, 187	741, 846	4, 664, 031
ALL OTHER PORTS.							
January .....	340	50, 925	51, 265	.....	1, 000, 349	1, 000, 349	1, 051, 614
February .....	9, 180	19, 900	29, 080	3, 929	604, 587	608, 516	637, 596
March .....	19, 000	48, 350	67, 350	.....	920, 714	920, 714	988, 064
April .....	38, 510	25, 197	63, 707	2, 900	843, 796	846, 696	910, 403
May .....	8, 835	60, 161	68, 996	3, 293	1, 337, 014	1, 340, 307	1, 409, 303
June .....	42, 180	10, 005	52, 194	4, 856	801, 896	806, 752	858, 946
July .....	22, 800	4, 850	27, 650	3, 121	1, 187, 270	1, 190, 391	1, 218, 041
August .....	1, 830	34, 450	36, 280	.....	970, 634	970, 634	1, 006, 914
September .....	3, 000	19, 500	22, 500	3, 900	818, 328	822, 228	844, 728
October .....	67, 945	28, 725	96, 670	3, 269	1, 052, 210	1, 055, 479	1, 152, 149
November .....	10, 000	8, 350	18, 350	260	1, 610, 774	1, 611, 034	1, 629, 384
December .....	657	10, 500	11, 157	476	981, 319	981, 795	992, 952
Total .....	224, 286	320, 913	545, 199	26, 004	12, 128, 891	12, 154, 895	12, 700, 094
Total imports (coin)	1, 936, 700	8, 387, 933	10, 324, 633	185, 946	13, 579, 782	13, 765, 728	24, 090, 361



## XIV.—IMPORTS AND EXPORTS OF GOLD AND SILVER, ETC.—Continued.

## DOMESTIC EXPORTS.

Customs districts and ports.	BULLION.						Total gold and silver bullion.
	Gold.			Silver.			
	U. S. mint or assay office bars.	Other bullion.	Total.	U. S. mint or assay office bars.	Other bullion.	Total.	
NEW YORK.							
January .....	\$496, 130	\$5, 609	\$501, 739	.....	\$1, 472, 466	\$1, 472, 466	\$1, 974, 205
February .....	511, 893	6, 264	518, 157	\$29, 053	1, 162, 995	1, 192, 048	1, 710, 205
March .....	1, 252, 000	1, 016, 570	2, 268, 570	.....	1, 074, 780	1, 074, 780	3, 343, 350
April .....	1, 024, 299	5, 630	1, 029, 929	.....	1, 350, 735	1, 350, 735	2, 380, 664
May .....	12, 522, 216	2, 500	12, 524, 716	.....	2, 047, 907	2, 047, 907	14, 572, 623
June .....	17, 392, 592	2, 450	17, 395, 042	.....	1, 110, 917	1, 110, 917	18, 505, 959
July .....	4, 670, 773	12, 653	4, 683, 426	.....	1, 287, 703	1, 287, 703	5, 971, 129
August .....	.....	3, 650	3, 650	.....	2, 100, 083	2, 100, 083	2, 103, 733
September .....	.....	2, 000	2, 000	.....	1, 411, 102	1, 411, 102	1, 413, 102
October .....	1, 532, 101	42, 100	1, 574, 201	.....	2, 012, 688	2, 012, 688	3, 586, 889
November .....	.....	3, 600	3, 600	189, 612	1, 140, 322	1, 329, 934	1, 333, 534
December .....	.....	1, 200	1, 200	96, 812	2, 091, 104	2, 187, 916	2, 189, 116
Total .....	39, 402, 004	1, 104, 226	40, 506, 230	315, 477	18, 262, 802	18, 578, 279	59, 084, 509
SAN FRANCISCO.							
January .....	.....	200	200	4, 000	620, 000	624, 000	624, 200
February .....	.....	270	270	126, 000	648, 500	774, 500	774, 770
March .....	.....	.....	.....	65, 000	618, 700	683, 700	683, 700
April .....	.....	130	130	30, 000	745, 000	775, 000	775, 130
May .....	.....	380	380	40, 000	793, 500	833, 500	833, 880
June .....	.....	985	985	78, 500	786, 200	864, 700	865, 685
July .....	.....	410	410	.....	500, 160	500, 160	500, 570
August .....	.....	1, 356	1, 356	3, 300	907, 592	910, 892	912, 248
September .....	.....	460	460	28, 000	392, 300	420, 300	420, 760
October .....	.....	3, 640	3, 640	41, 500	685, 200	726, 700	730, 340
November .....	.....	1, 636	1, 636	.....	644, 000	644, 000	645, 636
December .....	.....	2, 824	2, 824	35, 000	697, 300	732, 300	735, 124
Total .....	.....	12, 291	12, 291	451, 300	8, 038, 452	8, 489, 752	8, 502, 043
ALL OTHER PORTS.							
January .....	.....	.....	.....	.....	.....	.....	.....
February .....	.....	.....	.....	.....	.....	.....	.....
March .....	.....	.....	.....	.....	.....	.....	.....
April .....	.....	.....	.....	.....	.....	.....	.....
May .....	.....	.....	.....	.....	.....	.....	.....
June .....	.....	.....	.....	.....	.....	.....	.....
July .....	.....	.....	.....	.....	.....	.....	.....
August .....	.....	.....	.....	.....	500	500	500
September .....	.....	.....	.....	.....	.....	.....	.....
October .....	.....	.....	.....	.....	.....	.....	.....
November .....	.....	.....	.....	.....	.....	.....	.....
December .....	.....	.....	.....	.....	.....	.....	.....
Total .....	.....	.....	.....	.....	500	500	500
Total domestic ex- ports (bullion)...	39, 402, 004	1, 116, 517	40, 518, 521	766, 777	26, 301, 754	27, 068, 531	67, 587, 052

**XIV.**—IMPORTS AND EXPORTS OF GOLD AND SILVER, ETC.—Continued.

## DOMESTIC EXPORTS—Continued.

Customs districts and ports.	COIN.		
	Gold.	Silver.	Total.
<b>NEW YORK.</b>			
January.....	\$600, 402	\$4, 900	\$605, 302
February.....	893, 887	750	894, 637
March.....	550, 257	.....	550, 257
April.....	49, 579	3, 000	52, 579
May.....	215, 192	600	215, 792
June.....	220, 709	2, 000	222, 709
July.....	175, 155	.....	175, 155
August.....	141, 665	.....	141, 665
September.....	140, 350	350	140, 700
October.....	153, 870	67, 484	221, 354
November.....	346, 938	82	347, 020
December.....	196, 845	.....	196, 845
Total.....	3, 684, 849	79, 166	3, 764, 015
<b>SAN FRANCISCO.</b>			
January.....	88, 155	.....	88, 155
February.....	14, 766	.....	14, 766
March.....	28, 108	1, 550	29, 658
April.....	31, 184	.....	31, 184
May.....	40, 593	.....	40, 593
June.....	49, 992	.....	49, 992
July.....	20, 806	.....	20, 806
August.....	115, 433	.....	115, 433
September.....	68, 690	.....	68, 690
October.....	342, 162	1, 000	343, 162
November.....	216, 944	.....	216, 944
December.....	82, 734	150	82, 884
Total.....	1, 099, 507	2, 700	1, 102, 207
<b>ALL OTHER PORTS.</b>			
January.....	.....	.....	.....
February.....	.....	1, 000	1, 000
March.....	.....	25, 000	25, 000
April.....	.....	1, 400	1, 400
May.....	250	3, 688	3, 938
June.....	.....	3, 000	3, 000
July.....	.....	1, 919	1, 919
August.....	.....	4, 058	4, 058
September.....	.....	.....	.....
October.....	.....	1, 139	1, 139
November.....	370	65	435
December.....	.....	13	13
Total.....	620	41, 282	41, 902
Total domestic exports (coin).....	4, 784, 976	123, 148	4, 908, 124

XIV.—IMPORTS AND EXPORTS OF GOLD AND SILVER, ETC.—Continued.

FOREIGN EXPORTS.

Customs districts and ports.	BULLION.		
	Gold.	Silver.	Total.
NEW YORK.			
January .....			
February .....			
March .....			
April .....		\$30,386	\$30,386
May .....			
June .....			
July .....			
August .....			
September .....			
October .....	\$12,600	38,898	51,498
November .....		15,400	15,400
December .....		32,000	32,000
Total .....	12,600	116,684	129,284
SAN FRANCISCO.			
January .....			
February .....			
March .....			
April .....			
May .....			
June .....			
July .....			
August .....			
September .....			
October .....			
November .....			
December .....			
Total .....			
ALL OTHER PORTS.			
January .....			
February .....			
March .....			
April .....			
May .....			
June .....			
July .....			
August .....			
September .....			
October .....			
November .....			
December .....			
Total .....			
Total foreign exports (bullion) .....	12,600	116,684	129,284



**XIV.—IMPORTS AND EXPORTS OF GOLD AND SILVER, ETC.—Continued.**

## FOREIGN EXPORTS—Continued.

Customs districts and ports.	COIN.		
	Gold.	Silver.	Total.
<b>NEW YORK.</b>			
January .....	\$6, 584	\$279, 080	\$285, 664
February .....	51, 188	152, 237	203, 425
March .....	1, 545, 649	206, 726	1, 752, 375
April .....	2, 065, 192	597, 697	2, 662, 889
May .....	663, 902	392, 544	1, 056, 446
June .....	464, 146	127, 078	591, 224
July .....	401, 989	21, 740	423, 729
August .....	158, 072	132, 365	290, 437
September .....	78, 080	223, 378	301, 458
October .....	146, 990	388, 212	535, 202
November .....	6, 254	395, 066	401, 320
December .....	29, 317	176, 181	205, 498
Total .....	5, 617, 363	3, 092, 304	8, 709, 667
<b>SAN FRANCISCO.</b>			
January .....		616, 098	616, 098
February .....		449, 343	449, 343
March .....		489, 764	489, 764
April .....		851, 524	851, 524
May .....		1, 210, 095	1, 210, 095
June .....		1, 090, 188	1, 090, 188
July .....		800, 858	800, 858
August .....		1, 072, 692	1, 072, 692
September .....		532, 370	532, 370
October .....		892, 117	892, 117
November .....		1, 435, 890	1, 435, 890
December .....		690, 282	690, 282
Total .....		10, 131, 221	10, 131, 221
<b>ALL OTHER PORTS.</b>			
January .....		6, 927	6, 927
February .....		29, 162	29, 162
March .....		29, 633	29, 633
April .....		18, 065	18, 065
May .....		4, 400	4, 400
June .....		9, 620	9, 620
July .....		9, 469	9, 469
August .....		12, 685	12, 685
September .....		26, 680	26, 680
October .....		8, 926	8, 926
November .....		3, 739	3, 739
December .....		3, 036	3, 036
Total .....		162, 342	162, 342
Total foreign exports (coin) .....	5, 617, 363	13, 385, 867	19, 003, 230

XIV.—IMPORTS AND EXPORTS OF GOLD AND SILVER.

RECAPITULATION.

Description.	Gold.	Silver.	Total.
IMPORTS.			
Bullion .....	\$1, 679, 999	\$5, 453, 534	\$7, 133, 533
Foreign coin .....	8, 387, 933	13, 579, 782	21, 967, 715
Total .....	10, 067, 932	19, 033, 316	29, 101, 248
United States coin .....	1, 936, 700	185, 946	2, 122, 646
Total bullion and coin .....	12, 004, 632	19, 219, 262	31, 223, 894
EXPORTS.			
Domestic bullion .....	40, 518, 521	27, 068, 531	67, 587, 052
Foreign bullion .....	12, 600	116, 684	129, 284
Foreign coin .....	5, 617, 363	13, 385, 867	19, 003, 230
Total .....	46, 148, 484	40, 571, 082	86, 719, 566
United States coin .....	4, 784, 976	123, 148	4, 908, 124
Total bullion and coin .....	50, 933, 460	40, 694, 230	91, 627, 690
EXCESS.			
Bullion and foreign coin:			
Exports .....	36, 080, 552	21, 537, 766	57, 618, 318
United States coin:			
Imports .....		62, 798	
Exports .....	2, 848, 276		

**XV (a).—IMPORTS AND EXPORTS OF GOLD AND SILVER ORES DURING THE YEAR ENDING DECEMBER 31, 1889.**

## IMPORTS.

Month.	NEW YORK, N. Y.		SAN FRANCISCO, CAL.		PASO DEL NORTE, TEX. AND N. MEX.		ALL OTHER CUSTOMS DISTRICTS, ETC.	
	Gold.	Silver.	Gold.	Silver.	Gold.	Silver.	Gold.	Silver.
January .....	\$10	\$39,598	-----	\$31,489	-----	\$449,179	\$3,000	\$25,311
February .....	-----	73,696	\$100	112,498	-----	309,793	50	27,457
March .....	-----	38,873	-----	30,736	-----	384,072	550	208,696
April .....	2,600	45,882	-----	24,037	-----	455,148	-----	191,028
May .....	51	53,380	-----	89,213	\$8,741	420,564	500	179,955
June .....	-----	50,236	-----	102,585	-----	358,373	1,000	264,774
July .....	25	25,716	-----	19,577	-----	275,630	250	290,399
August .....	500	18,423	-----	25,054	-----	270,304	-----	229,851
September .....	4,800	48,692	-----	11,464	2,686	363,796	3,160	105,370
October .....	7,000	4,319	443	33,968	5,176	374,059	-----	157,846
November .....	4,609	47,796	-----	9,566	6,789	343,473	340	176,649
December .....	-----	51,074	-----	65,532	4,166	494,592	342	174,992
Total .....	19,595	497,685	543	555,719	27,558	4,498,983	9,192	2,032,328

Total imports of gold ores, \$56,888; silver ores, \$7,584,715.

## EXPORTS.

Month.	DOMESTIC EXPORTS.		FOREIGN EXPORTS.			
	Ores, gold and silver bearing.		New York, N. Y.		All other customs districts.	
	New York, N. Y.	All other customs districts.	Gold.	Silver.	Gold.	Silver.
January .....	\$2,500	-----	-----	-----	-----	\$393
February .....	1,760	-----	-----	\$10,000	-----	321
March .....	1,555	-----	-----	-----	-----	-----
April .....	205	-----	-----	-----	-----	-----
May .....	205	-----	-----	-----	-----	320
June .....	5,321	\$500	-----	-----	-----	1,539
July .....	190	50	-----	-----	-----	-----
August .....	37	5	-----	-----	\$454	2,356
September .....	275	-----	\$1,000	-----	498	18,026
October .....	-----	50	-----	-----	-----	1,056
November .....	75	-----	-----	-----	-----	579
December .....	133	-----	-----	-----	-----	1,194
Total .....	12,256	605	1,000	10,000	952	25,784

Total exports of gold and silver bearing ores (domestic), \$12,861. Total exports of gold ores (foreign), \$1,952. Total exports of silver ores (foreign), \$35,784.

**XV (b).—STATEMENT, BY COUNTRIES, OF THE EXPORTS OF DOMESTIC COPPER ORE FROM THE UNITED STATES DURING THE YEAR ENDING DECEMBER 31, 1889.**

Countries to which exported.	Quantities.	Values.
	<i>Tons.</i>	
England .....	44,254	\$8,030,201
Germany .....	1,582	196,005
Total .....	45,836	8,226,206



**XVI.—QUANTITY AND COST OF SILVER BULLION DELIVERED ON PURCHASES AT THE COINAGE MINTS AND NUMBER OF SILVER DOLLARS COINED MONTHLY DURING THE CALENDAR YEAR 1889.**

Month.	Standard ounces.	Cost.	Coinage.
January.....	2, 443, 169. 97	\$2, 055, 756. 34	\$3, 100, 000
February .....	2, 478, 539. 58	2, 084, 719. 93	2, 710, 300
March .....	2, 554, 284. 12	2, 149, 707. 89	3, 000, 025
April .....	2, 418, 849. 78	2, 019, 693. 61	2, 978, 000
May .....	2, 405, 433. 18	2, 006, 562. 39	3, 164, 025
June .....	2, 307, 052. 35	1, 922, 622. 20	3, 264, 110
July .....	2, 687, 469. 41	2, 235, 682. 85	1, 300, 000
August .....	2, 505, 886. 10	2, 089, 045. 43	2, 875, 000
September .....	2, 574, 479. 86	2, 159, 316. 37	2, 860, 000
October .....	2, 506, 315. 19	2, 116, 081. 07	3, 100, 351
November.....	2, 290, 308. 29	1, 971, 173. 95	3, 300, 000
Decomber.....	2, 967, 498. 40	2, 569, 148. 57	3, 000, 000
Total.....	30 139 286 23	25, 379 510 60	34, 651, 811
Purchased and coined from March 1, 1878, to January 1, 1889 .....	275, 007, 939. 55	266, 091, 445 56	315 284 352
Purchased and coined from March 1, 1878, to January 1, 1890.....	305, 147, 225 78	291, 470, 956. 16	349, 936, 163
Monthly average, January 1, 1889, to January 1, 1890 .....	2, 511, 607. 18	2, 114, 959. 21	2, 887, 651
Monthly average for 142 months .....	2, 148, 924. 12	2, 052, 612. 37	2, 464, 339

**XVII.—MONTHLY PURCHASES OF SILVER BULLION DURING THE CALENDAR YEAR 1889.**

Month.	PHILADELPHIA.		NEW ORLEANS.	
	Standard ounces.	Cost.	Standard ounces.	Cost.
January .....	1, 511, 071. 06	\$1, 271, 214. 25	928, 460. 17	\$781, 398. 48
February .....	1, 625, 137. 86	1, 366, 447. 86	850, 478. 11	715, 747. 13
March .....	1, 622, 052. 04	1, 365, 176. 56	929, 057. 64	781, 792. 10
April .....	1, 779, 917. 10	1, 486, 346. 31	635, 185. 25	530, 103. 74
May .....	1, 643, 354. 44	1, 371, 034. 40	757, 642. 18	631, 693. 62
June .....	1, 404, 334. 56	1, 170, 088. 81	898, 349. 96	748, 604. 64
July .....	1, 300, 964. 69	1, 082, 347. 69	1, 279, 002. 90	1, 064, 120. 37
August .....	1, 200, 667. 97	1, 001, 409. 07	1, 186, 911. 66	989, 137. 45
September .....	1, 659, 319. 54	1, 391, 747. 77	826, 275. 72	693, 033. 36
October .....	1, 220, 827. 31	1, 029, 332. 48	899, 103. 82	757, 760. 04
November .....	1, 061, 469. 08	912, 203. 07	346, 240. 47	297, 671. 66
December .....	1, 504, 181. 99	1, 300, 079. 25	467, 396. 48	405, 218. 06
Total .....	17, 533, 297. 64	14, 747, 427. 52	10, 004, 104. 36	8, 396, 280. 59

Month.	SAN FRANCISCO.		CARSON.		TOTAL.	
	Standard ounces.	Cost.	Standard ounces.	Cost.	Standard ounces.	Cost.
January .....	2, 709. 97	\$2, 330. 57	928. 77	\$813. 04	2, 443, 169. 97	\$2, 055, 756. 34
February .....	2, 664. 42	2, 291. 41	259. 19	233. 53	2, 478, 539. 58	2, 084, 719. 93
March .....	2, 924. 71	2, 515. 71	249. 73	223. 52	2, 554, 284. 12	2, 149, 707. 89
April .....	3, 377. 75	2, 909. 78	369. 68	333. 78	2, 418, 849. 78	2, 019, 693. 61
May .....	4, 020. 61	3, 457. 72	415. 95	376. 65	2, 405, 433. 18	2, 006, 562. 39
June .....	2, 961. 46	2, 548. 20	1, 406. 37	1, 380. 55	2, 307, 052. 35	1, 922, 622. 20
July .....	.....	.....	107, 501. 82	89, 214. 79	2, 687, 469. 41	2, 235, 682. 85
August .....	4, 510. 04	3, 878. 67	113, 796. 43	94, 620. 24	2, 505, 886. 10	2, 089, 045. 43
September .....	2, 852. 38	2, 453. 43	86, 032. 22	72, 081. 87	2, 574, 479. 86	2, 159, 316. 37
October .....	220, 832. 31	188, 962. 70	165, 551. 75	140, 025. 85	2, 506, 315. 19	2, 116, 081. 07
November .....	753, 842. 58	650, 535. 14	128, 756. 16	110, 764. 08	2, 290, 308. 29	1, 971, 173. 95
December .....	746, 538. 37	647, 929. 83	249, 381. 56	215, 921. 43	2, 967, 498. 40	2, 569, 148. 57
Total .....	1, 747, 234. 60	1, 509, 813. 16	854, 649. 63	725, 989. 33	30, 139, 286. 23	25, 379, 510. 60

XVIII.—QUANTITY AND COST OF SILVER USED IN THE COINAGE OF SILVER  
CALENDAR  
MINT AT PHILADELPHIA.

Date.	COINED.	
	Standard ounces.	Cost.
1889—January.....	1, 718, 750.00	\$1, 449, 498.12
February.....	1, 469, 789.06	1, 238, 477.42
March.....	1, 718, 771.48	1, 447, 804.14
April.....	1, 613, 906.25	1, 355, 920.52
May.....	1, 773, 771.48	1, 487, 347.85
June.....	1, 859, 782.03	1, 556, 965.35
July.....	687, 500.00	574, 621.90
August.....	1, 632, 812.50	1, 364, 095.93
September.....	1, 598, 437.50	1, 336, 971.81
October.....	1, 719, 051.63	1, 440, 597.59
November.....	1, 718, 750.00	1, 449, 030.06
December.....	1, 160, 156.25	986, 770.65
Total.....	18, 671, 478.18	15, 688, 101.34

MINT AT NEW ORLEANS.

1889—January.....	945, 312.50	\$797, 816.92
February.....	859, 375.00	724, 380.73
March.....	859, 375.00	723, 809.43
April.....	945, 312.50	793, 582.13
May.....	945, 312.50	790, 985.95
June.....	945, 312.50	789, 083.08
July.....	429, 687.50	357, 863.19
August.....	837, 890.63	698, 033.30
September.....	859, 375.00	717, 476.90
October.....	859, 375.00	719, 792.52
November.....	859, 375.00	722, 890.75
December.....	859, 375.00	728, 863.93
Total.....	10, 205, 078.13	8, 564, 578.83

MINT AT SAN FRANCISCO.

1889—January.....	.....	.....
February.....	.....	.....
March.....	.....	.....
April.....	.....	.....
May.....	.....	.....
June.....	.....	.....
July.....	.....	.....
August.....	.....	.....
September.....	.....	.....
October.....	.....	.....
November.....	171, 875.00	\$148, 049.30
December.....	429, 687.50	371, 417.80
Total.....	601, 562.50	519, 467.10



DOLLARS, WASTED AND SOLD IN SWEEPS, AT EACH MINT MONTHLY DURING THE YEAR 1889.

MINT AT PHILADELPHIA

WASTED AND SOLD IN SWEEPS.		TOTAL EMPLOYMENT.		Dollars coined.	Seignorage.
Standard ounces.	Cost.	Standard ounces.	Cost.		
		1, 718, 750.00	\$1, 449, 498.12	2, 000, 000	\$550, 501.88
		1, 469, 789.06	1, 238, 477.42	1, 710, 300	471, 822.58
4, 559.54	\$3, 841.97	1, 723, 331.02	1, 451, 646.11	2, 000, 025	552, 220.86
		1, 613, 906.25	1, 355, 920.52	1, 878, 000	522, 079.48
		1, 773, 771.48	1, 487, 347.85	2, 064, 025	576, 677.15
7, 813.59	6, 546.95	1, 867, 595.62	1, 563, 512.30	2, 164, 110	607, 144.65
		687, 500.00	574, 621.90	800, 000	225, 378.10
4, 439.69	3, 710.75	1, 637, 252.19	1, 367, 806.68	1, 900, 000	535, 904.07
		1, 598, 437.50	1, 336, 971.81	1, 860, 000	523, 028.19
		1, 719, 051.63	1, 440, 597.59	2, 000, 351	559, 753.41
		1, 718, 750.00	1, 449, 030.06	2, 000, 000	550, 969.94
6, 019.98	5, 044.86	1, 166, 176.23	991, 815.51	1, 350, 000	363, 229.35
22, 832.80	19, 144.53	18, 694, 310.98	15, 707, 245.87	21, 726, 811	6, 038, 709.66

MINT AT NEW ORLEANS.

		945, 312.50	\$797, 816.92	1, 100, 000	\$302, 183.08
968.08	\$816.01	860, 343.08	725, 196.74	1, 000, 000	275, 619.27
		859, 375.00	723, 809.43	1, 000, 000	276, 190.57
1, 039.87	872.96	946, 352.37	794, 455.09	1, 100, 000	306, 417.87
719.52	602.05	946, 032.02	791, 588.00	1, 100, 000	309, 014.05
9, 408.67	7, 853.72	954, 721.17	796, 936.80	1, 100, 000	310, 916.92
2, 249.66	1, 873.62	431, 937.16	359, 736.81	500, 000	142, 136.81
		837, 890.63	698, 033.30	975, 000	276, 966.70
		859, 375.00	717, 476.90	1, 000, 000	282, 523.10
		859, 375.00	719, 792.52	1, 000, 000	280, 207.48
1, 104.40	929.00	860, 479.40	723, 819.75	1, 000, 000	277, 109.25
		859, 375.00	728, 863.93	1, 000, 000	271, 136.07
15, 490.20	12, 947.36	10, 220, 568.33	8, 577, 526.19	11, 875, 000	3, 310, 421.17

MINT AT SAN FRANCISCO.

299.26	\$258.15	299.26	\$258.15		
		171, 875.00	148, 049.30	200, 000	\$51, 950.70
		429, 687.50	371, 417.80	500, 000	128, 582.20
299.26	258.15	601, 861.76	519, 725.25	700, 000	180, 532.90

**XVIII.**—QUANTITY AND COST OF SILVER USED IN THE COINAGE OF SILVER  
MINT AT CARSON.

Date.	COINED.	
	Standard ounces.	Cost.
1889—January .....	.....	.....
February.....	.....	.....
March .....	.....	.....
April .....	.....	.....
May .....	.....	.....
June.....	.....	.....
July .....	.....	.....
August .....	.....	.....
September.....	.....	.....
October.....	85,937.50	\$72,733.25
November .....	85,937.50	72,990.00
December.....	128,906.25	110,179.77
Total .....	300,781.25	255,903.02

DOLLARS, WASTED AND SOLD IN SWEEPS, AT EACH MINT, ETC.—Continued.

MINT AT CARSON.

WASTED AND SOLD IN SWEEPS.		TOTAL EMPLOYMENT.		Dollars coined.	Seignorage.
Standard ounces.	Cost.	Standard ounces.	Cost.		
3, 297. 48	\$2, 477. 66	3, 297. 48	\$2, 477. 66		
		85, 937. 50	72, 733. 25	100, 000	\$27, 266. 75
		85, 937. 50	72, 990. 00	100, 000	27, 010. 00
		128, 906. 25	110, 179. 77	150, 000	39, 820. 23
3, 297. 48	2, 477. 66	304, 078. 73	258, 380. 68	350, 000	94, 096. 98



**XIX.**—QUANTITY AND COST OF SILVER USED IN THE COINAGE OF SILVER DOLLARS,  
WASTED AND SOLD IN SWEEPS, MONTHLY, DURING THE CALENDAR YEAR 1889.

RECAPITULATION BY MONTHS.

Month.	COINED.		WASTED AND SOLD IN SWEEPS.	
	Standard ounces.	Cost.	Standard ounces.	Cost.
January .....	2,664,062.50	\$2,247,315.04	.....	.....
February .....	2,329,164.06	1,962,858.15	968.08	\$816.01
March .....	2,578,146.48	2,171,613.57	4,559.54	3,841.97
April .....	2,559,218.75	2,149,502.65	1,039.87	872.96
May .....	2,719,083.98	2,278,333.80	719.52	602.05
June .....	2,805,094.53	2,346,048.43	17,521.52	14,658.82
July .....	1,117,187.50	932,485.09	2,249.66	1,873.62
August .....	2,470,703.13	2,062,129.23	4,439.69	3,710.75
September .....	2,457,812.50	2,054,448.71	3,297.48	2,477.66
October .....	2,664,364.13	2,233,123.36	.....	.....
November .....	2,835,937.50	2,392,960.11	1,104.40	929.00
December .....	2,578,125.00	2,197,232.15	6,019.98	5,044.86
Total .....	29,778,900.06	25,028,050.29	41,919.74	34,827.70

Month.	TOTAL EMPLOYMENT.		Dollars coined.	Seignorage.
	Standard ounces.	Cost.		
January .....	2,664,062.50	\$2,247,315.04	3,100,000	\$852,684.96
February .....	2,330,132.14	1,963,674.16	2,710,300	747,441.85
March .....	2,582,706.02	2,175,455.54	3,000,025	828,411.43
April .....	2,560,258.62	2,150,375.61	2,978,000	828,497.35
May .....	2,719,803.50	2,278,935.85	3,164,025	885,691.20
June .....	2,822,616.05	2,360,707.25	3,264,110	918,061.57
July .....	1,119,437.16	934,358.71	1,300,000	367,514.91
August .....	2,475,142.82	2,065,839.98	2,875,000	812,870.77
September .....	2,461,109.98	2,056,926.37	2,860,000	805,551.29
October .....	2,664,364.13	2,233,123.36	3,100,351	867,227.64
November .....	2,837,041.90	2,393,889.11	3,300,000	907,039.89
December .....	2,584,144.98	2,202,277.01	3,000,000	802,767.85
Total .....	29,820,819.80	25,062,877.99	34,651,811	9,623,760.71

RECAPITULATION BY MINTS.

Mint at—	COINED.		WASTED AND SOLD IN SWEEPS.	
	Standard ounces.	Cost.	Standard ounces.	Cost.
Philadelphia .....	18,671,478.18	\$15,688,101.34	22,832.80	\$19,144.53
New Orleans .....	10,205,078.13	8,564,578.83	15,490.20	12,947.36
San Francisco .....	601,562.50	519,467.10	299.26	258.15
Carson .....	300,781.25	255,903.02	3,297.48	2,477.66
Aggregate .....	29,778,900.06	25,028,050.29	41,919.74	34,827.70

Mint at—	TOTAL EMPLOYMENT.		Dollars coined.	Seignorage.
	Standard ounces.	Cost.		
Philadelphia .....	18,694,310.98	\$15,707,245.87	21,726,811	\$6,038,709.66
New Orleans .....	10,220,568.33	8,577,526.19	11,875,000	3,310,421.17
San Francisco .....	601,861.76	519,725.25	700,000	180,532.90
Carson .....	304,078.73	258,380.68	350,000	94,096.98
Aggregate .....	29,820,819.80	25,062,877.99	34,651,811	9,623,760.71

**XX.—COST OF SILVER BULLION CONTRACTED FOR MONTHLY AND DELIVERED ON EACH MONTH'S CONTRACTS, TOGETHER WITH THE VALUE AND COST OF THE MONTHLY COINAGE OF SILVER DOLLARS DURING THE CALENDAR YEAR 1889.**

Month.	Cost of silver contracted for.	Cost of silver delivered on monthly contracts.	Cost of silver coined into silver dollars.	Nominal value of coinage.
January .....	\$2, 130, 607. 01	\$2, 130, 453. 30	\$2, 247, 315. 04	\$3, 100, 000. 00
February .....	2, 019, 051. 88	2, 019, 877. 01	1, 962, 858. 15	2, 710, 300. 00
March .....	2, 079, 258. 49	2, 085, 952. 23	2, 171, 613. 57	3, 000, 025. 00
April .....	2, 010, 483. 66	2, 008, 229. 73	2, 149, 502. 65	2, 978, 000. 00
May .....	2, 066, 927. 32	2, 064, 402. 70	2, 278, 333. 80	3, 164, 025. 00
June .....	2, 044, 320. 99	2, 042, 285. 28	2, 346, 048. 43	3, 264, 110. 00
July .....	2, 096, 429. 35	2, 100, 125. 13	932, 485. 09	1, 300, 000. 00
August .....	2, 077, 344. 64	2, 083, 038. 97	2, 062, 129. 23	2, 875, 000. 00
September .....	2, 175, 475. 10	2, 178, 475. 70	2, 054, 448. 71	2, 860, 000. 00
October .....	2, 350, 629. 06	2, 349, 109. 87	2, 233, 123. 36	3, 100, 351. 00
November .....	2, 086, 932. 61	2, 087, 845. 70	2, 392, 960. 11	3, 300, 000. 00
December .....	2, 328, 660. 96	2, 334, 657. 58	2, 197, 232. 15	3, 000, 000. 00
Total .....	25, 466, 121. 07	25, 484, 553. 20	25, 028, 050. 29	34, 651, 811. 00

**XXI.—MONTHLY PURCHASE AND COINAGE INTO SILVER DOLLARS OF \$2,000,000 WORTH OF SILVER BULLION DURING THE CALENDAR YEAR 1889.**

Month.	Average price per fine ounce for previous month.	Number of fine ounces required to procure \$2,000,000 worth of bullion.	Coining value in silver dollars.	Dollars coined.	Silver contained.	Cost of bullion coined.
					<i>Standard ozs.</i>	
January .....	.93581	2, 137, 186	\$2, 763, 230	3, 100, 000	2, 664, 062. 50	\$2, 247, 315. 04
February .....	.93616	2, 136, 387	2, 762, 197	2, 710, 300	2, 329, 164. 06	1, 962, 858. 15
March .....	.93752	2, 133, 288	2, 758, 190	3, 000, 025	2, 578, 146. 48	2, 171, 613. 57
April .....	.93652	2, 135, 566	2, 761, 136	2, 978, 000	2, 559, 218. 75	2, 149, 502. 65
May .....	.92918	2, 152, 435	2, 782, 946	3, 164, 025	2, 719, 083. 98	2, 278, 333. 80
June .....	.92893	2, 153, 015	2, 783, 696	3, 264, 110	2, 805, 094. 53	2, 346, 048. 43
July .....	.92547	2, 161, 064	2, 794, 103	1, 300, 000	1, 117, 187. 50	932, 485. 09
August .....	.92638	2, 158, 941	2, 791, 358	2, 875, 000	2, 470, 703. 13	2, 062, 129. 23
September .....	.92959	2, 151, 486	2, 781, 719	2, 860, 000	2, 457, 812. 50	2, 054, 448. 71
October .....	.93477	2, 139, 564	2, 766, 365	3, 100, 351	2, 664, 364. 13	2, 233, 123. 36
November .....	.94036	2, 126, 845	2, 749, 860	3, 300, 000	2, 835, 937. 50	2, 392, 960. 11
December .....	.95956	2, 084, 289	2, 694, 838	3, 000, 000	2, 578, 125. 00	2, 197, 232. 15
Total .....		25, 670, 066	33, 189, 578	34, 651, 811	29, 778, 900. 06	25, 028, 050. 29

**XXII.**—HIGHEST, LOWEST, AND AVERAGE PRICE OF BAR SILVER IN LONDON, PER OUNCE BRITISH STANDARD (.925), SINCE 1833, AND THE EQUIVALENT IN UNITED STATES GOLD COIN OF AN OUNCE 1,000 FINE, TAKEN AT THE AVERAGE PRICE.

Calendar year.	Lowest quotation.	Highest quotation.	Average quotation.	Value of a fine ounce at average quotation.	Calendar year.	Lowest quotation.	Highest quotation.	Average quotation.	Value of a fine ounce at average quotation.
	<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>Dollars.</i>		<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>Dollars.</i>
1833 .....	58 $\frac{1}{2}$	59 $\frac{7}{8}$	59 $\frac{3}{16}$	1. 297	1862 .....	61	62 $\frac{1}{2}$	61 $\frac{7}{16}$	1. 346
1834 .....	59 $\frac{1}{2}$	60 $\frac{1}{2}$	59 $\frac{5}{8}$	1. 313	1863 .....	61	61 $\frac{1}{2}$	61 $\frac{1}{8}$	1. 345
1835 .....	59 $\frac{1}{2}$	60	59 $\frac{1}{16}$	1. 308	1864 .....	60 $\frac{3}{8}$	62 $\frac{1}{2}$	61 $\frac{1}{8}$	1. 345
1836 .....	59 $\frac{5}{8}$	60 $\frac{3}{8}$	60	1. 315	1865 .....	60 $\frac{1}{2}$	61 $\frac{5}{8}$	61 $\frac{1}{16}$	1. 338
1837 .....	59	60 $\frac{3}{8}$	59 $\frac{9}{16}$	1. 305	1866 .....	60 $\frac{3}{8}$	62 $\frac{1}{2}$	61 $\frac{1}{8}$	1. 339
1838 .....	59 $\frac{1}{2}$	60 $\frac{3}{8}$	59 $\frac{1}{2}$	1. 304	1867 .....	60 $\frac{3}{8}$	61 $\frac{1}{2}$	60 $\frac{9}{16}$	1. 328
1839 .....	60	60 $\frac{3}{8}$	60 $\frac{3}{8}$	1. 323	1868 .....	60 $\frac{3}{8}$	61 $\frac{1}{8}$	60 $\frac{1}{2}$	1. 326
1840 .....	60 $\frac{1}{2}$	60 $\frac{3}{8}$	60 $\frac{3}{8}$	1. 323	1869 .....	60	61	60 $\frac{7}{16}$	1. 325
1841 .....	59 $\frac{1}{2}$	60 $\frac{3}{8}$	60 $\frac{1}{16}$	1. 316	1870 .....	60 $\frac{1}{2}$	60 $\frac{3}{8}$	60 $\frac{9}{16}$	1. 328
1842 .....	59 $\frac{1}{2}$	60	59 $\frac{7}{16}$	1. 303	1871 .....	60 $\frac{1}{2}$	60 $\frac{3}{8}$	60 $\frac{1}{2}$	1. 326
1843 .....	59	59 $\frac{5}{8}$	59 $\frac{3}{16}$	1. 297	1872 .....	59 $\frac{1}{2}$	61 $\frac{1}{8}$	60 $\frac{5}{16}$	1. 322
1844 .....	59 $\frac{1}{2}$	59 $\frac{1}{2}$	59 $\frac{1}{2}$	1. 304	1873 .....	57 $\frac{7}{8}$	59 $\frac{1}{16}$	59 $\frac{1}{2}$	1. 298
1845 .....	58 $\frac{7}{8}$	59 $\frac{5}{8}$	59 $\frac{1}{2}$	1. 298	1874 .....	57 $\frac{1}{2}$	59 $\frac{1}{2}$	58 $\frac{5}{16}$	1. 278
1846 .....	59	60 $\frac{3}{8}$	59 $\frac{5}{16}$	1. 30	1875 .....	55 $\frac{1}{2}$	57 $\frac{5}{8}$	56 $\frac{7}{8}$	1. 246
1847 .....	58 $\frac{7}{8}$	60 $\frac{3}{8}$	59 $\frac{1}{16}$	1. 308	1876 .....	46 $\frac{3}{8}$	58 $\frac{1}{2}$	52 $\frac{3}{8}$	1. 156
1848 .....	58 $\frac{1}{2}$	60	59 $\frac{1}{2}$	1. 304	1877 .....	53 $\frac{1}{2}$	58 $\frac{1}{2}$	54 $\frac{1}{16}$	1. 201
1849 .....	59 $\frac{1}{2}$	60	59 $\frac{3}{8}$	1. 309	1878 .....	49 $\frac{1}{2}$	55 $\frac{1}{2}$	52 $\frac{9}{16}$	1. 152
1850 .....	59 $\frac{1}{2}$	61 $\frac{1}{2}$	61 $\frac{1}{16}$	1. 316	1879 .....	48 $\frac{3}{8}$	53 $\frac{1}{8}$	51 $\frac{1}{2}$	1. 123
1851 .....	60	61 $\frac{5}{8}$	61	1. 337	1880 .....	51 $\frac{5}{8}$	52 $\frac{7}{8}$	52 $\frac{1}{2}$	1. 145
1852 .....	59 $\frac{5}{8}$	61 $\frac{7}{8}$	60 $\frac{1}{2}$	1. 326	1881 .....	50 $\frac{7}{8}$	52 $\frac{7}{8}$	51 $\frac{1}{16}$	1. 138
1853 .....	60 $\frac{5}{8}$	61 $\frac{7}{8}$	61 $\frac{1}{2}$	1. 348	1882 .....	50	52 $\frac{3}{8}$	51 $\frac{1}{8}$	1. 130
1854 .....	60 $\frac{7}{8}$	61 $\frac{7}{8}$	61 $\frac{1}{2}$	1. 348	1883 .....	50—	51 $\frac{3}{16}$	50 $\frac{5}{8}$	1. 11
1855 .....	60	61 $\frac{5}{8}$	61 $\frac{5}{16}$	1. 344	1884 .....	49 $\frac{1}{2}$	51 $\frac{1}{8}$	50 $\frac{1}{2}$	1. 113
1856 .....	60 $\frac{1}{2}$	62 $\frac{1}{2}$	61 $\frac{5}{16}$	1. 344	1885 .....	46 $\frac{7}{8}$	50	48 $\frac{9}{16}$	1. 0645
1857 .....	61	62 $\frac{3}{8}$	61 $\frac{1}{8}$	1. 353	1886 .....	42	47	45 $\frac{3}{8}$	0. 9946
1858 .....	60 $\frac{3}{8}$	61 $\frac{7}{8}$	61 $\frac{5}{16}$	1. 344	1887 .....	43 $\frac{1}{2}$	47 $\frac{1}{8}$	44 $\frac{5}{8}$	0. 97823
1859 .....	61 $\frac{1}{8}$	62 $\frac{1}{2}$	62 $\frac{1}{16}$	1. 36	1888 .....	41 $\frac{5}{8}$	44 $\frac{9}{16}$	42 $\frac{7}{8}$	0. 93897
1860 .....	61 $\frac{1}{2}$	62 $\frac{3}{8}$	61 $\frac{1}{16}$	1. 352	1889 .....	42	44 $\frac{3}{8}$	42 $\frac{1}{16}$	0. 93512
1861 .....	60 $\frac{5}{8}$	61 $\frac{5}{8}$	60 $\frac{1}{16}$	1. 333					



**XXIII.—PRODUCT OF GOLD AND SILVER IN THE UNITED STATES FROM 1792-1844,  
AND ANNUALLY SINCE.**

[The estimate for 1792-1873 is by R. W. Raymond, Commissioner, and since by the Director of the Mint.]

Years.	Gold.	Silver.	Total.
April 2, 1792—July 31, 1834 .....	\$14, 000, 000	Insignificant.	\$14, 000, 000
July 31, 1834—December 31, 1844.....	7, 500, 000	\$250, 000	7, 750, 000
1845.....	1, 008, 327	50, 000	1, 058, 327
1846.....	1, 139, 357	50, 000	1, 189, 357
1847.....	889, 085	50, 000	939, 085
1848.....	10, 000, 000	50, 000	10, 050, 000
1849.....	40, 000, 000	50, 000	40, 050, 000
1850.....	50, 000, 000	50, 000	50, 050, 000
1851.....	55, 000, 000	50, 000	55, 050, 000
1852.....	60, 000, 000	50, 000	60, 050, 000
1853.....	65, 000, 000	50, 000	65, 050, 000
1854.....	60, 000, 000	50, 000	60, 050, 000
1855.....	55, 000, 000	50, 000	55, 050, 000
1856.....	55, 000, 000	50, 000	55, 050, 000
1857.....	55, 000, 000	50, 000	55, 050, 000
1858.....	50, 000, 000	500, 000	50, 500, 000
1859.....	50, 000, 000	100, 000	50, 100, 000
1860.....	46, 000, 000	150, 000	46, 150, 000
1861.....	43, 000, 000	2, 000, 000	45, 000, 000
1862.....	39, 200, 000	4, 500, 000	43, 700, 000
1863.....	40, 000, 000	8, 500, 000	48, 500, 000
1864.....	46, 100, 000	11, 000, 000	57, 100, 000
1865.....	53, 225, 000	11, 250, 000	64, 475, 000
1866.....	53, 500, 000	10, 000, 000	63, 500, 000
1867.....	51, 725, 000	13, 500, 000	65, 225, 000
1868.....	48, 000, 000	12, 000, 000	60, 000, 000
1869.....	49, 500, 000	12, 000, 000	61, 500, 000
1870.....	50, 000, 000	16, 000, 000	66, 000, 000
1871.....	43, 500, 000	23, 000, 000	66, 500, 000
1872.....	36, 000, 000	28, 750, 000	64, 750, 000
1873.....	36, 000, 000	35, 750, 000	71, 750, 000
1874.....	33, 500, 000	37, 300, 000	70, 800, 000
1875.....	33, 400, 000	31, 700, 000	65, 100, 000
1876.....	39, 900, 000	38, 800, 000	78, 700, 000
1877.....	46, 900, 000	39, 800, 000	86, 700, 000
1878.....	51, 200, 000	45, 200, 000	96, 400, 000
1879.....	38, 900, 000	40, 800, 000	79, 700, 000
1880.....	36, 000, 000	39, 200, 000	75, 200, 000
1881.....	34, 700, 000	43, 000, 000	77, 700, 000
1882.....	32, 500, 000	46, 800, 000	79, 300, 000
1883.....	30, 000, 000	46, 200, 000	76, 200, 000
1884.....	30, 800, 000	48, 800, 000	79, 600, 000
1885.....	31, 800, 000	51, 600, 000	83, 400, 000
1886.....	35, 000, 000	51, 000, 000	86, 000, 000
1887.....	33, 000, 000	53, 350, 000	86, 350, 000
1888.....	33, 175, 000	59, 195, 000	92, 370, 000
1889.....	32, 800, 000	64, 646, 000	97, 446, 000
Total .....	1, 838, 861, 769	927, 291, 000	2, 766, 152, 769

**XXIV.—COMMERCIAL RATIO OF SILVER TO GOLD EACH YEAR SINCE 1687.**

[NOTE.—From 1687 to 1832 the ratios are taken from Dr. A. Soetbeer; from 1833 to 1878 from Pixley and Abell's tables; and from 1879 to 1839 from daily cablegrams from London to the Bureau of the Mint.]

Year.	Ratio.	Year.	Ratio.	Year.	Ratio.	Year.	Ratio.	Year.	Ratio.	Year.	Ratio.
1687....	14.94	1721...	15.05	1755...	14.68	1789...	14.75	1823...	15.84	1857...	15.27
1688....	14.94	1722...	15.17	1756...	14.94	1790...	15.04	1824...	15.82	1858...	15.38
1689....	15.02	1723...	15.20	1757...	14.87	1791...	15.05	1825...	15.70	1859...	15.19
1690....	15.02	1724...	15.11	1758...	14.85	1792...	15.17	1826...	15.76	1860...	15.29
1691....	14.98	1725...	15.11	1759...	14.15	1793...	15.00	1827...	15.74	1861...	15.50
1692....	14.92	1726...	15.15	1760...	14.14	1794...	15.37	1828...	15.78	1862...	15.35
1693....	14.83	1727...	15.24	1761...	14.54	1795...	15.55	1829...	15.78	1863...	15.37
1694....	14.87	1728...	15.11	1762...	15.27	1796...	15.65	1830...	15.82	1864...	15.37
1695....	15.02	1729...	14.92	1763...	14.99	1797...	15.41	1831...	15.72	1865...	15.44
1696....	15.00	1730...	14.81	1764...	14.70	1798...	15.59	1832...	15.73	1866...	15.43
1697....	15.20	1731...	14.94	1765...	14.83	1799...	15.74	1833...	15.93	1867...	15.57
1698....	15.07	1732...	15.09	1766...	14.80	1800...	15.68	1834...	15.73	1868...	15.59
1699....	14.94	1733...	15.18	1767...	14.85	1801...	15.46	1835...	15.80	1869...	15.60
1700....	14.81	1734...	15.39	1768...	14.80	1802...	15.26	1836...	15.72	1870...	15.57
1701....	15.07	1735...	15.41	1769...	14.72	1803...	15.41	1837...	15.83	1871...	15.57
1702....	15.52	1736...	15.18	1770...	14.62	1804...	15.41	1838...	15.85	1872...	15.63
1703....	15.17	1737...	15.02	1771...	14.66	1805...	15.79	1839...	15.62	1873...	15.92
1704....	15.22	1738...	14.91	1772...	14.52	1806...	15.52	1840...	15.62	1874...	16.17
1705....	15.11	1739...	14.91	1773...	14.62	1807...	15.43	1841...	15.70	1875...	16.59
1706....	15.27	1740...	14.94	1774...	14.62	1808...	16.08	1842...	15.87	1876...	17.88
1707....	15.44	1741...	14.92	1775...	14.72	1809...	15.96	1843...	15.93	1877...	17.22
1708....	15.41	1742...	14.85	1776...	14.55	1810...	15.77	1844...	15.85	1878...	17.94
1709....	15.31	1743...	14.85	1777...	14.54	1811...	15.53	1845...	15.92	1879...	18.40
1710....	15.22	1744...	14.87	1778...	14.68	1812...	16.11	1846...	15.90	1880...	18.05
1711....	15.29	1745...	14.98	1779...	14.80	1813...	16.25	1847...	15.80	1881...	18.16
1712....	15.31	1746...	15.13	1780...	14.72	1814...	15.04	1848...	15.85	1882...	18.19
1713....	15.24	1747...	15.26	1781...	14.78	1815...	15.26	1849...	15.78	1883...	18.64
1714....	15.13	1748...	15.11	1782...	14.42	1816...	15.28	1850...	15.70	1884...	18.57
1715....	15.11	1749...	14.80	1783...	14.48	1817...	15.11	1851...	15.46	1885...	19.41
1716....	15.09	1750...	14.55	1784...	14.70	1818...	15.35	1852...	15.59	1886...	20.78
1717....	15.13	1751...	14.39	1785...	14.92	1819...	15.33	1853...	15.33	1887...	21.13
1718....	15.11	1752...	14.54	1786...	14.96	1820...	15.62	1854...	15.33	1888...	21.99
1719....	15.09	1753...	14.54	1787...	14.92	1821...	15.95	1855...	15.38	1889...	22.10
1720....	15.04	1754...	14.48	1788...	14.65	1822...	15.80	1856...	15.38		

**XXV.—WELLS, FARGO & CO. (EXPRESS AND BANKING), PRECIOUS METALS PRODUCT, UNITED STATES AND MEXICO.**SAN FRANCISCO, *December 31, 1889.*

DEAR SIR: The following is our annual report of precious metals produced in the States and Territories west of the Missonri River (including British Columbia, and receipts by express from the west coast of Mexico) during 1889, which shows in the aggregate: Gold, \$32,974,643; silver, \$65,316,107; copper, \$14,793,763; lead, \$14,593,323. Total gross result, \$127,677,836. The "commercial" value at which the several metals named herein have been estimated is: Silver, 94 cents per ounce; copper, 10 cents per pound; and lead, \$3.80 per cwt.

As in former reports, allowance must be made for probable variations from exact figures, by reason of constantly increasing facilities for transporting bullion, ores, and base metals from the mines outside of the express, and the difficulty of getting entirely reliable data from private sources. Especially is such the case in the reports from Montana and Colorado. Statistics gathered in this way are liable to be exaggerated; but, with some modifications on this account, already made, the final general results reached may be accepted as approximately correct.

States and Territories.	Gold dust and bullion by express.	Gold dust and bullion by other conveyances.	Silver bullion by express.	Ores and base bullion by freight.	Total.
California.....	\$9,390,044	\$539,000	\$664,476	\$1,849,237	\$12,842,757
Nevada.....	3,082,653	.....	6,352,654	2,473,654	11,908,961
Oregon.....	654,659	100,000	30,702	.....	785,361
Washington.....	112,000	20,000	85,000	.....	217,000
Alaska.....	.....	845,000	.....	.....	845,000
Idaho.....	3,204,500	.....	7,564,500	6,575,600	17,344,600
Montana.....	4,500,000	.....	16,076,923	11,150,000	31,726,923
Utah.....	15,275	.....	1,764,762	8,049,976	9,830,013
Colorado.....	3,534,790	.....	19,341,847	5,198,251	28,074,888
New Mexico.....	384,507	50,000	140,325	3,362,845	3,937,677
Arizona.....	922,861	50,000	611,666	4,218,500	5,803,027
Dakota.....	3,407,177	.....	.....	.....	3,407,177
West coast of Mexico by steamer	4,818	.....	507,470	.....	512,288
British Columbia.....	442,164	.....	.....	.....	442,164
Total.....	29,655,448	2,004,000	53,140,325	42,878,063	127,677,836

The gross yield for 1889, shown above, segregated, is approximately as follows:

Metals.	Prepertation.	Amount.
Gold.....	25.83	\$32,974,643
Silver.....	51.15	65,316,107
Copper.....	11.59	14,793,763
Lead.....	11.43	14,593,323
Total.....	.....	127,677,836



## ANNUAL PRODUCTS OF LEAD, COPPER, SILVER, AND GOLD IN THE STATES AND TERRITORIES WEST OF THE MISSOURI RIVER, 1870-1889.

Years.	Production as per W., F. & Co.'s statements, including amounts from British Columbia and west coast of Mexico.	Product after deducting amounts from British Columbia and west coast of Mexico.	The net products of the States and Territories west of the Missouri River, exclusive of British Columbia and west coast of Mexico, divided, is as follows:			
			Lead.	Copper.	Silver.	Gold.
1870.....	\$54,000,000	\$52,150,000	\$1,080,000	.....	\$17,320,000	\$33,750,000
1871.....	58,284,000	55,784,000	2,100,000	.....	19,286,000	34,398,000
1872.....	62,236,959	60,351,824	2,250,000	.....	19,924,429	38,177,395
1873.....	72,258,693	70,139,860	3,450,000	.....	27,483,302	39,206,558
1874.....	74,401,045	71,965,610	3,800,000	.....	29,699,122	38,466,488
1875.....	80,889,057	76,703,433	5,100,000	.....	31,635,239	39,968,194
1876.....	90,875,173	87,219,859	5,040,000	.....	39,292,924	42,886,935
1877.....	98,421,754	95,811,582	5,085,250	.....	45,846,109	44,880,223
1878.....	81,154,622	78,276,167	3,452,000	.....	37,248,137	37,576,030
1879.....	75,349,501	72,688,888	4,185,769	.....	37,032,857	31,470,262
1880.....	80,167,936	77,232,512	5,742,390	\$898,000	38,033,055	32,559,067
1881.....	84,504,417	81,198,474	6,361,902	1,195,000	42,987,613	30,653,959
1882.....	92,411,835	89,207,519	8,008,155	4,055,037	48,133,039	29,011,318
1883.....	90,313,612	84,639,212	8,163,550	5,683,921	42,975,101	27,816,640
1884.....	84,975,954	81,633,835	6,834,091	6,086,252	43,529,925	25,183,567
1885.....	90,181,260	87,311,382	8,562,991	7,838,036	44,516,599	26,393,756
1886.....	103,011,761	100,160,222	9,185,192	9,276,755	52,136,851	29,561,424
1887.....	104,645,959	103,327,770	9,631,073	10,362,746	50,833,884	32,500,067
1888.....	114,341,592	112,665,569	11,263,630	18,261,490	53,152,747	29,987,702
1889.....	127,677,836	126,723,384	14,593,323	14,793,763	64,808,637	32,527,661

The exports of silver during the past year to Japan, China, the Straits, etc., have been as follows: From London, \$39,232,314; from San Francisco, \$18,422,398; total, \$57,654,712, as against \$43,006,618 last year. Pounds sterling estimated at \$4.84.

## UNITED STATES OF MEXICO.

## PRODUCT OF GOLD AND SILVER IN THE REPUBLIC OF MEXICO, REVISED AND CORRECTED FROM 1877 TO 1889—VALUES UPON MINTAGE BASIS.

Years.	Gold.	Silver.	Total.
1877-1878.....	\$747,000	\$24,837,000	\$25,584,000
1878-1879.....	881,000	25,125,000	26,006,000
1879-1880.....	942,000	26,800,000	27,742,000
1880-1881.....	1,013,000	29,234,000	30,247,000
1881-1882.....	937,000	29,329,000	30,266,000
1882-1883.....	956,000	29,569,000	30,525,000
1883-1884.....	1,055,000	31,695,000	32,750,000
1884-1885.....	914,000	33,226,000	34,140,000
1885-1886.....	1,026,000	34,112,000	35,138,000
1886-1887.....	1,047,000	34,600,000	35,647,000
1887-1888.....	1,031,000	34,912,000	35,943,000
1888-1889.....	1,040,000	40,706,000	41,746,000
Total.....	11,589,000	374,145,000	385,734,000

**COINAGE OF GOLD, SILVER, AND COPPER, IN THE REPUBLIC OF MEXICO, FROM THE  
1ST OF JULY, 1873, TO THE 30TH OF JUNE, 1889.**

Years.	Gold.	Silver.	Copper.
1873-1874.....	\$866, 748	\$18, 846, 067	\$15, 966
1874-1875.....	862, 619	19, 386, 958	21, 712
1875-1876.....	809, 401	19, 454, 054	30, 654
1876-1877.....	695, 750	21, 415, 128	9, 035
1877-1878.....	691, 998	22, 084, 203	41, 364
1878-1879.....	658, 206	22, 162, 987	16, 300
1879-1880.....	521, 826	24, 018, 528	14, 035
1880-1881.....	492, 068	24, 617, 395	42, 258
1881-1882.....	452, 590	25, 146, 260	11, 972
1882-1883.....	407, 600	24, 083, 921	.....
1883-1884.....	328, 698	25, 377, 379	.....
1884-1885.....	423, 250	25, 840, 728	.....
1885-1886.....	425, 000	25, 850, 000	.....
1886-1887.....	410, 000	25, 600, 000	.....
1887-1888.....	340, 320	26, 711, 000	.....
1888-1889.....	305, 100	25, 274, 500	.....
Total.....	8, 691, 169	375, 869, 108	203, 296

**SUMMARY.**

Gold.....	\$8, 691, 169
Silver.....	375, 869, 108
Copper.....	203, 296
Grand total.....	384, 763, 573

**COINAGE OF MEXICO FROM THE ESTABLISHMENT OF THE MINT IN 1537 TO THE END  
OF THE FISCAL YEAR 1889.**

Periods.	Gold.	Silver.	Copper.	Total.
<b>COLONIAL EPOCH.</b>				
Unmilled coin from 1537 to 1731.....	\$8, 497, 950	\$752, 067, 456	\$200, 000	\$760, 765, 406
Pillar coin, 1732 to 1771.....	19, 889, 014	441, 629, 211	.....	461, 518, 225
Bust coin, 1772 to 1821.....	40, 391, 447	888, 563, 989	342, 893	929, 298, 329
<b>INDEPENDENCE.</b>				
Iturbide's imperial bust, from 1822-'23.....	557, 392	18, 575, 569	.....	19, 132, 961
Republic eagle—1824 to 30th June, 1873.....	45, 040, 628	740, 246, 485	5, 235, 177	790, 522, 290
<b>REPUBLIC.</b>				
Eagle coin, from 1st July, 1873, to 30th of June, 1889.....	45, 598, 020	758, 822, 054	5, 235, 177	809, 655, 251
.....	8, 691, 169	375, 869, 108	203, 296	384, 763, 573

**SUMMARY.**

Colonial epoch (from 1537 to 1821).....	\$2, 151, 581, 960
Independence (from 1822 to 1873).....	809, 655, 251
Republic (from 1873 to 1889).....	384, 763, 573
Total.....	3, 346, 000, 784

The returns from Mexico continue to show a steady forward movement in full accord with the healthy progress of mineral developments and mining interests in the United States. This result is owing, in great measure, to the liberal and friendly policy of the Federal Government of Mexico, which has afforded enterprises of the kind every reasonable encouragement. The prospects for the future are also very bright.

JOHN J. VALENTINE,  
*Vice-President and General Manager.*

**XXVI.—IMPORTS AND EXPORTS OF GOLD AND SILVER COIN INTO THE UNITED KINGDOM, 1874-1888.**

[From The Statistical Abstract for the United Kingdom.]

Years.	British gold coin.		British silver coin.	
	Imported.	Exported.	Imported.	Exported.
1874.....	£2,349,946	£4,147,436	£119,445	£286,987
1875.....	3,992,687	4,287,666	104,951	122,965
1876.....	5,326,079	6,903,753	244,265	241,389
1877.....	5,523,057	4,155,551	57,157	211,922
1878.....	6,566,001	3,544,882	151,539	184,494
1879.....	3,323,277	6,020,728	215,088	568,979
1880.....	4,107,572	5,113,071	134,088	543,890
1881.....	4,927,407	4,999,958	91,074	421,192
1882.....	4,407,383	3,406,878	100,125	622,990
1883.....	3,354,263	3,326,791	119,392	417,784
1884.....	2,172,409	5,643,496	61,385	267,144
1885.....	7,007,580	6,782,085	79,158	336,502
1886.....	5,860,515	6,754,374	116,565	166,276
1887.....	4,430,706	2,374,528	123,142	299,734
1888.....	7,146,226	10,215,123	106,568	378,288

**XXVII.—GOLD, SILVER, AND COPPER (BRONZE), COINED AT THE ROYAL MINT OF THE UNITED KINGDOM, AND LIGHT GOLD AND SILVER COIN WITHDRAWN FOR RE-COINAGE, 1874-1888.**

[From The Statistical Abstract for the United Kingdom.]

Years.	Gold coined.	Light gold coin sent in for re-coinage.	Silver coined.	Worn silver coin sent in for re-coinage.	Copper (bronze) coined.
1874.....	£1,461,565	.....	£890,604	£156,355	£65,632
1875.....	243,264	£2,129,881	594,000	154,000	69,813
1876.....	4,696,648	638,575	222,354	276,000	61,450
1877.....	981,468	1,557,500	420,948	207,280	51,146
1878.....	2,265,069	.....	613,998	401,635	17,024
1879.....	35,050	2,842,437	549,054	495,055	44,651
1880.....	4,150,052	389,375	761,508	485,815	19,264
1881.....	.....	.....	997,128	382,392	39,349
1882.....	.....	.....	209,880	91,926	42,560
1883.....	1,403,713	3,445,968	1,274,328	383,415	33,450
1884.....	2,324,015	973,437	658,548	207,933	69,290
1885.....	2,973,487	1,249,918	720,918	284,238	57,568
1886.....	.....	.....	417,384	185,116	51,669
1887.....	1,908,686	2,301,206	861,498	353,831	45,173
1888.....	2,032,900	1,668,472	756,578	235,681	39,499



**XXVIII.**—DECLARED VALUE OF THE IMPORTS AND EXPORTS OF GOLD BULLION AND SPECIE INTO THE UNITED KINGDOM IN THE YEAR ENDED DECEMBER 31, 1889.

[From The Economist Monthly Trade Supplement, January 11, 1890.]

Countries.	1889.	
	Imports.	Exports.
Sweden .....	£7, 379	£203, 000
Germany .....	186, 443	334, 476
Holland .....	2, 250, 934	183, 910
Belgium .....	450, 222	271, 282
France .....	1, 672, 651	1, 692, 156
Portugal, Azores, and Madeira .....	7, 398	2, 070, 528
Spain and Canaries .....	39, 517	298, 800
Gibraltar .....	17, 252	24, 470
Malta .....	5, 440	40, 000
Egypt .....	670, 399	650, 000
West coast of Africa .....	169, 777	18, 712
British Possessions in South Africa .....	1, 441, 787	2, 390, 680
British East Indies .....	320, 297	1, 669, 486
China (including Hong-Kong) .....	598, 130	.....
Japan .....	60, 020	.....
Australasia .....	4, 168, 729	297
British North America .....	44, 938	14, 938
Mexico, South America (except Brazil), and West Indies .....	2, 723, 559	748, 528
Brazil .....	77, 608	3, 348, 462
United States .....	2, 568, 966	10, 300
Other countries .....	204, 628	485, 293
Total .....	17, 686, 174	14, 455, 318

**XXIX.**—DECLARED VALUE OF THE IMPORTS AND EXPORTS OF SILVER BULLION AND SPECIE INTO THE UNITED KINGDOM IN THE YEAR ENDED DECEMBER 31, 1889.

[From The Economist Monthly Trade Supplement, January 11, 1890.]

Countries.	1889.	
	Imports.	Exports.
Sweden .....	£22	£75
Germany .....	257, 349	39, 257
Holland .....	3, 133	6, 651
Belgium .....	127, 139	810
France .....	2, 280, 522	126, 411
Portugal, Azores, and Madeira .....	2, 160	43, 467
Spain and Canaries .....	159, 154	102
Gibraltar .....	2, 325	7, 386
Malta .....	1, 293	900
Egypt .....	149, 388	205
West coast of Africa .....	27, 153	81, 929
British Possessions in South Africa .....	2, 158	242, 000
British East Indies .....	.....	8, 170, 797
China (including Hong-Kong) .....	63	404, 711
Japan .....	.....	1, 045, 000
Australasia .....	28, 209	47, 781
British North America .....	580	20, 319
Mexico, South America (except Brazil), and West Indies .....	2, 137, 160	259, 692
Brazil .....	9, 092	62, 404
United States .....	3, 975, 943	31, 150
Other countries .....	22, 137	75, 265
Total .....	9, 184, 980	10, 666, 312

**XXX.—DECLARED VALUE OF THE REGISTERED IMPORTS OF GOLD BULL**

[From The Statistical Abstract for

Countries from which im- ported.	1874.	1875.	1876.	1877.	1878.	1879.
Russia.....	£17, 600	-----	£2, 660, 895	-----	-----	-----
Germany .....	85, 106	£409, 098	703, 114	£430, 029	£1, 040, 388	£90, 776
Holland.....	10, 713	6, 013	12, 133	73, 026	30, 534	26, 691
Belgium .....	186, 114	324, 244	1 966, 566	522, 683	947, 640	735, 189
France .....	740, 395	2, 022, 964	1, 427, 024	872, 800	5, 908, 078	2, 905, 323
Portugal, Azores, and Ma- deira .....	132	2, 490	384, 831	284, 505	248, 738	283, 134
Spain and Canaries .....	4, 085	2, 571	47, 863	173, 549	56, 386	191, 895
Gibraltar .....	75, 702	114, 665	112, 602	43, 371	70, 057	87, 893
Malta.....	40, 628	128, 027	32, 182	3, 458	1, 555	14, 973
Turkey .....	10, 302	2, 306	13, 656	12, 380	21, 837	46, 825
Egypt .....	223, 250	526, 359	366, 144	313, 057	1, 576, 207	393, 949
West Coast of Africa .....	136, 263	117, 321	145, 511	120, 542	122, 497	115, 167
British Poss. in S. Africa...	306, 695	244, 034	279, 785	66, 922	46, 980	31, 952
British India .....	263, 135	91, 405	1, 289, 979	986, 792	1, 102, 472	1, 465, 694
China .....	282, 586	341, 669	808, 018	186, 594	429, 975	809, 497
Australasia .....	6, 720, 878	6, 640, 881	4, 956, 777	6, 635, 438	5, 680, 591	3, 184, 562
British North America ...	2, 479	4, 004	-----	-----	300	200
Mexico, S. America(except Brazil), and West Indies..	2, 492, 828	1, 386, 300	1, 859, 725	920, 586	1, 276, 071	933, 720
Brazil.....	371, 584	257, 415	582, 245	251, 973	315, 141	442, 267
United States.....	4, 508, 740	8, 257, 664	4, 371, 705	2, 061, 918	866, 333	388, 250
Other countries.....	1, 571, 804	2, 261, 404	1, 455, 220	1, 462, 362	1, 129, 630	1, 220, 718
Total .....	18, 081, 019	23, 140, 834	23, 475, 975	15, 441, 985	20, 871, 410	13, 368, 675

**XXXI.—DECLARED VALUE OF THE REGISTERED EXPORTS OF GOLD BULL**

Countries to which ex- ported.	1874.	1875.	1876.	1877.	1878.	1879.
Russia.....	-----	-----	-----	£699	£93, 500	£71
Denmark .....	£535, 622	£270, 486	£265, 423	65, 018	250	50, 000
Germany .....	132, 000	6, 405, 737	2, 222, 509	8, 343, 485	4, 484, 758	2, 924, 215
Holland.....	478, 026	1, 066, 470	416, 211	22, 303	41, 992	461, 384
Belgium .....	527, 200	1, 142, 099	45, 305	38, 569	797, 221	151, 087
France .....	5, 433, 712	5, 251, 444	4, 188, 566	6, 147, 504	4, 599, 429	695, 710
Portugal, Azores, and Ma- deira .....	354, 872	607, 120	2, 366, 638	202, 351	879, 044	165, 015
Spain and Canaries .....	3, 752	591, 033	400	541, 400	436, 637	693, 050
Gibraltar .....	-----	25, 000	57	-----	3	700
Malta.....	70, 000	45, 600	191, 740	253, 255	327, 020	62, 540
Turkey .....	-----	-----	400	-----	-----	-----
Egypt .....	910, 663	65, 100	1, 148, 381	1, 395, 021	516, 089	1, 960, 915
British Poss. in S. Africa...	10, 583	-----	230, 000	484, 946	346, 500	1, 730, 000
Mauritius .....	-----	-----	-----	-----	-----	-----
British India .....	25, 075	77, 722	216, 771	609, 513	232, 953	218, 675
China (including Hong- Kong) .....	-----	-----	-----	-----	300	-----
Australasia .....	-----	20, 500	10, 000	-----	10, 005	86
British North America ...	16, 000	80, 000	30, 000	20, 000	15, 000	140, 000
Danish West Indies .....	21, 940	19, 110	3, 000	13, 255	2, 780	2, 000
Spanish West Indies .....	1, 400	9, 900	-----	6, 750	-----	-----
United States.....	9, 095	576, 659	3, 524, 286	1, 167, 630	828, 750	6, 949, 078
Mexico .....	-----	-----	-----	-----	-----	-----
Central America.....	13, 650	450	1, 094	253	4, 120	500
New Granada.....	-----	-----	3, 765	-----	-----	200
Brazil.....	500, 767	977, 697	244, 059	239, 001	121, 573	179, 400
Argentine Republic .....	1, 111, 327	616, 400	721, 655	250, 359	150, 881	532, 827
Other countries.....	485, 952	799, 769	685, 488	572, 574	1, 079, 702	661, 365
Total .....	10, 641, 636	18, 648, 296	16, 515, 748	20, 373, 886	14, 968, 507	17, 578, 818



ION AND SPECIE INTO THE UNITED KINGDOM FROM VARIOUS COUNTRIES.  
the United Kingdom, London, 1889.]

1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.
£216, 221	£41, 000	£53, 035	£157, 496	£71, 519	£217, 696	£39, 375	£28, 357	£216, 272
256, 712	442, 866	863, 074	1, 126, 686	261, 568	28, 068	93, 913	154, 526	1, 047, 168
553, 124	765, 133	452, 295	453, 157	861, 119	1, 047, 959	444, 742	520, 417	591, 707
2, 118, 036	363, 121	1, 832, 361	1, 294, 688	1, 951, 145	1, 786, 686	1, 349, 514	1, 920, 726	3, 107, 301
2, 101	2, 129, 539	164, 505	80, 513	58, 404	86, 182	10, 032	3, 867	4, 589
27, 956	7, 697	229, 489	455, 028	330, 172	543, 155	151, 066	40, 779	46, 049
17, 394	93, 526	71, 696	22, 532	21, 675	45, 437	40, 245	28, 912	31, 141
57, 946	3, 647	23, 379	9, 368	3, 910	3, 564	3, 611	57, 438	73, 310
14, 012	73, 759	10, 710	26, 568	3, 264	9, 333	15, 394	88, 300	7, 041
2, 291	24, 030	285, 802	68, 496	61, 488	197, 987	1, 233, 417	2, 164, 487	1, 321, 402
125, 980	341, 427	110, 782	95, 092	116, 926	232, 680	137, 602	148, 045	147, 040
247, 714	96, 092	74, 395	438, 517	171, 908	543, 086	271, 470	230, 942	847, 054
1, 050	38, 749	3, 550	191, 747	16, 163	268, 989	634, 494	131, 212	260, 031
14, 121	26, 413	6, 243	193, 552	68, 521	1, 190, 743	1, 158, 297	1, 051, 520	1, 052, 741
3, 612, 344	19, 954	2, 996, 549	2, 256, 128	709, 388	3, 737, 424	2, 725, 870	320, 797	3, 945, 119
248	4, 470, 186	3	1, 522	20, 550	35, 750	8, 008	-----	-----
681, 004	616, 031	596, 781	685, 461	731, 390	1, 930, 473	1, 465, 019	2, 836, 600	698, 913
172, 022	230, 386	142, 399	131, 541	142, 217	421, 427	541, 211	141, 060	86, 649
55, 365	23, 191	6, 099, 783	9, 777	5, 072, 094	909, 044	2, 021, 542	37, 010	2, 251, 369
1, 279, 220	153, 256	59, 731	57, 931	70, 987	140, 878	47, 434	50, 331	52, 692
9, 454, 861	9, 963, 006	14, 376, 559	7, 755, 800	10, 744, 408	13, 376, 561	13, 392, 256	9, 955, 326	15, 787, 588

ION AND SPECIE FROM THE UNITED KINGDOM TO VARIOUS COUNTRIES.

1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.
£50, 335	£400	£599, 802	£189, 018	£754	£3, 159, 932	£38	£233, 500	£1, 301, 200
126, 148	610, 919	247, 379	834, 542	288, 296	634, 108	2, 627, 619	81, 578	1, 182, 882
75, 597	1, 333	8, 188	5, 842	1, 390, 040	378, 704	41, 946	520, 763	1, 422
16, 636	7, 275	101, 234	263, 334	82, 658	132, 812	6, 908	1, 422	2, 634
602, 218	1, 088, 945	3, 289, 947	101, 234	263, 334	118, 280	1, 180, 695	24, 158	2, 634
557, 925	952, 818	801, 266	950, 640	800, 000	781, 500	1, 863, 455	930, 265	1, 722, 000
440, 290	110, 200	246, 000	501, 850	765, 300	444, 400	403, 844	-----	202, 640
23, 030	-----	100	-----	7, 700	75	5, 000	30, 000	16, 000
141, 260	89, 500	40, 000	15, 040	20, 000	115, 200	30, 700	15, 075	10, 000
4, 000	350	160	-----	-----	-----	-----	-----	-----
1, 076, 380	561, 230	1, 000, 600	899, 900	1, 637, 195	3, 872, 990	-----	50, 000	25, 000
20	540, 000	6, 000	-----	100, 000	-----	195, 000	715, 055	1, 420, 394
865, 821	987, 762	1, 244, 727	935, 079	1, 392, 834	423, 939	383, 821	847, 952	631, 913
150	-----	10, 000	-----	-----	-----	100	-----	18
10, 000	40	-----	390	920, 000	-----	140, 000	50, 217	205
80, 200	53, 600	10, 280	500	267, 000	4, 167	200, 000	10, 042	10, 000
-----	-----	-----	-----	-----	-----	-----	-----	2, 000
5, 511, 887	7, 386, 753	92, 202	937, 515	2, 183, 803	299, 332	2, 995, 065	1, 760, 764	3, 939
150	6, 700	-----	1, 550	1, 200	684	-----	-----	2, 310
1, 412	-----	-----	-----	-----	1, 689	-----	500	-----
658, 683	430, 202	155, 287	275, 718	435, 064	192, 240	285, 184	209, 335	355, 981
800, 410	758, 209	484, 660	984, 868	733, 280	1, 730, 320	4, 145, 900	1, 679, 638	7, 233, 539
786, 270	1, 912, 601	3, 787, 171	457, 679	724, 381	274, 504	461, 859	90, 640	217, 695
11, 828, 822	15, 498, 837	12, 023, 804	7, 091, 365	12, 012, 839	11, 930, 818	13, 783, 706	9, 323, 614	14, 944, 143



**XXXII.—DECLARED VALUE OF THE REGISTERED IMPORTS OF SILVER BULL**

[From The Statistical Abstract for

Countries from which imported.	1874.	1875.	1876.	1877.	1878.	1879.
Russia .....			£50		£92, 674	
Germany .....	£2, 351, 968	£1, 152, 523	5, 364, 060	£13,747,558	3, 999, 402	£784, 134
Holland .....	156, 060	8, 498	131, 247	35, 257	54, 673	8, 744
Belgium .....	262, 758	65, 099	42, 479	72, 119	45, 614	40, 344
France .....	1, 172, 272	1, 392, 305	1, 340, 828	1, 521, 300	1, 740, 657	2, 346, 584
Portugal, Azores, and Madeira .....	17, 651	13, 925	1, 634	12, 375	28, 390	213, 360
Spain and Canaries .....	539	1, 062	3, 993	6, 748	13, 710	32, 806
Gibraltar .....	58, 224	33, 317	38, 558	27, 290	36, 362	28, 202
Malta .....	3, 590	11, 584	4, 100	2, 612	1, 098	2, 862
Turkey .....	50	334	625	3, 771	4, 958	28, 570
Egypt .....	21, 885	14, 207	21, 279	104, 526	42, 122	19, 829
West coast of Africa .....	40, 964	23, 587	21, 667	10, 905	41, 254	61, 755
British Poss. in South Africa .....	13, 317	11, 775	14, 010	1, 419	2, 042	8, 795
British India .....	17, 858	122, 157	220, 708	71, 570	136, 680	126, 124
China .....	371, 741	112, 730	16, 072	472	1, 449	348, 908
Australasia .....	21, 250	33, 061	15, 082	37, 572	20, 495	114, 157
British North America .....	17, 150	8, 430	14, 288	9, 325	16, 155	11, 036
Mexico, S. America (except Brazil), and West Indies .....	3, 931, 823	3, 362, 666	3, 079, 318	3, 352, 674	3, 519, 847	3, 581, 272
Brazil .....	64, 493	68, 877	63, 806	41, 743	28, 041	233, 851
United States .....	3, 476, 622	3, 181, 227	2, 637, 234	2, 615, 921	1, 617, 179	2, 595, 729
Other countries .....	297, 954	506, 591	547, 231	35, 657	108, 743	199, 801
Total .....	12, 298, 169	10, 123, 955	13, 578, 269	21, 710, 814	11, 551, 545	10, 786, 863

**XXXIII.—DECLARED VALUE OF THE REGISTERED EXPORTS OF SILVER BULL**

Countries to which exported.	1874.	1875.	1876.	1877.	1878.	1879.
Russia .....	£742, 740	£1, 000		£240		£1, 259
Denmark .....	912	500	£303	4	£2, 740	
Germany .....	117, 088	101, 696	190, 902	64, 620	1, 473, 876	1, 723, 251
Holland .....	212, 003	191, 122	204, 413	81, 108	125, 244	134, 611
Belgium .....	634, 580	171, 763	196, 747	20, 549	45, 842	13, 348
France .....	1, 321, 658	2, 449, 730	1, 832, 919	767, 574	2, 190, 877	722, 683
Portugal, Azores, and Madeira .....	12, 352	6, 337	28, 896	11, 969	65, 718	95, 488
Spain and Canaries .....	1, 882, 312	1, 679, 030	174, 200	1, 553, 890	663, 242	183, 778
Gibraltar .....		10, 000		100		200
Malta .....		9, 271	6, 364	15, 600	35, 955	
Turkey .....		22, 000				355
Egypt .....	6, 683, 456	30	13, 360	10, 277	1, 475	13, 608
British Poss. in S'th Africa .....	21, 200	15, 275	5, 125	6, 895	410	24, 186
Mauritius .....		5, 000		9, 044	1, 643	
British India .....	*307, 225	3, 231, 266	8, 229, 124	14, 313, 643	4, 219, 413	6, 046, 560
China (including Hong-Kong) .....	24, 800	863, 131	1, 249, 729	2, 047, 685	1, 620, 756	527, 492
Australasia .....	20, 595	13, 825	84, 300	74, 650	53, 750	221, 539
British North America .....	8, 000	1, 050	5, 200	2, 840	3, 400	4, 100
Danish West Indies .....	22, 500		16, 500	5, 000	5, 000	12, 000
Spanish West Indies .....						304, 235
United States .....	25, 250	89, 280	378, 441	297, 890	1, 082, 820	614, 320
Mexico .....			100			
Central America .....	6, 990	11, 244	13, 809	13, 246	10, 631	71, 995
New Grenada .....	26, 220	20, 650	18, 173	5, 578	10, 477	153, 514
Brazil .....				1, 600		500
Argentine Republic .....			688			
Other countries .....	142, 076	86, 546	299, 041	132, 731	104, 770	137, 072
Total .....	12, 211, 957	8, 979, 746	12, 948, 334	19, 436, 733	11, 718, 039	11, 006, 094

\* Exclusive of amount intended for India, but cleared at the custom-house for Egypt. See note f.

ION AND SPECIE INTO THE UNITED KINGDOM FROM VARIOUS COUNTRIES.  
the United Kingdom, London, 1889.]

1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.
	£21			£100				
£407, 393	222, 720	£558, 198	£289, 663	362, 764	£417, 320	£415, 854	£612, 331	£307, 416
4, 785	1, 949	5, 322	19, 395	7, 987	5, 484	5, 993	6, 703	3, 207
16, 116	47, 975	34, 585	27, 244	61, 926	102, 530	52, 782	114, 678	75, 963
2, 068, 635	1, 458, 961	2, 643, 208	2, 069, 628	1, 727, 708	1, 725, 293	1, 166, 979	1, 241, 930	810, 427
3, 909	6, 411	7, 778	1, 708	8, 824	6, 494	4, 262	420	2, 815
25, 891	25, 497	48, 249	37, 985	68, 986	114, 120	79, 348	120, 057	160, 096
7, 428	1, 657	6, 631	21, 628	18, 021	29, 079	8, 523	3, 466	6, 525
7, 946	15, 062	2, 160	2, 108	930	2, 282	2, 382	14, 921	8, 332
30, 212	34, 123	15, 242	12, 792	18, 688	5, 276	6, 810	3, 836	261
10, 919	15, 847	16, 984	26, 860	85, 860	8, 224	35, 494	30, 882	25, 303
63, 337	64, 143	51, 135	65, 680	69, 532	98, 538	82, 358	45, 639	40, 832
600	340	322	1, 013	26, 335	74, 431	38, 605	10, 443	3, 242
193, 305	124, 116	74, 132	79, 911	38, 690	81, 921	73, 906	34, 742	15, 466
23, 948	12, 448	34, 828	57, 179		917			220
78, 779	59, 425	55, 005	33, 135	23, 079	169, 090	245, 920	59, 609	32, 635
3, 575	3, 132	18, 498	3, 472	2, 942	4, 199	933	890	3, 624
2, 382, 492	1, 965, 615	3, 308, 682	3, 787, 881	4, 397, 298	3, 688, 544	3, 430, 399	3, 268, 474	2, 256, 466
200, 485	192, 430	320, 075	42, 653	10, 300	75, 889	40, 711	1, 004	7, 971
1, 198, 567	2, 598, 333	1, 922, 466	2, 803, 543	2, 629, 316	2, 804, 512	1, 697, 184	2, 213, 744	2, 383, 743
70, 700	51, 197	119, 425	84, 524	74, 209	19, 462	63, 196	35, 669	39, 396
6, 799, 022	6, 901, 402	9, 242, 925	9, 468, 002	9, 633, 495	9, 433, 605	7, 471, 639	7, 819, 438	6, 213, 940

ION AND SPECIE FROM THE UNITED KINGDOM TO VARIOUS COUNTRIES.

1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.
		£200				£1, 420		£5, 625
						172		338
£466, 719	£765, 361	149, 778	£283, 800	£14, 524	£39, 453	12, 625	£148, 328	241, 335
267, 342	185, 904	159, 087	106, 921	36, 898	89, 384	32, 246	10, 947	13, 158
22, 885	12, 976	24, 809	402	5, 179	30, 235	850	14, 160	560
173, 444	704, 089	350, 213	188, 915	633, 146	1, 490, 936	1, 019, 485	474, 629	545, 023
9, 452	7, 836	17, 534	18, 975	18, 576	5, 316	53, 719	76, 974	257, 364
2, 597	340, 384	1, 186, 149	1, 186, 815	448, 314	308, 180	191, 984	126, 400	93, 616
50			285	300		160	2, 120	1, 613
	1, 740	6, 180	1, 830		78, 634	31, 500	7, 285	4, 200
					1, 127	1, 000		
18, 240	16, 204	7, 027	7, 680	7, 360	13, 970	410	1, 420	210
84, 785	2, 000	28, 125	11, 300		18, 250	150	68, 620	70, 000
1, 585		456	1, 470	150		7, 591		200
4, 321, 507	3, 391, 271	5, 986, 495	6, 107, 422	7, 577, 118	7, 108, 635	4, 886, 277	5, 098, 518	5, 361, 360
1, 125, 552	962, 587	436, 775	917, 552	761, 134	375, 135	427, 262	332, 175	149, 345
192, 000	98, 800	280, 800	87, 800	44, 448	148, 801	65, 000	36, 943	121, 843
82, 182	99, 580	78, 641	63, 106	6, 722	30, 184	35, 857	23, 450	38, 988
1, 850	19, 844		265				402	
33, 520	31, 343	29, 420	48, 650	8, 332	6, 011	2, 865	35, 349	32, 319
29, 211	19, 933	14, 570	26, 290	15, 060	8, 773	5, 416	86, 579	4, 016
64, 731	200, 202	53, 775	58, 462	46, 535	10, 687	4, 570	38, 465	18, 045
238	2, 360	907	877	2, 321		3, 026	4, 114	172, 073
	5, 000				250			73
162, 791	136, 568	154, 515	204, 029	360, 266	88, 326	440, 114	1, 220, 526	484, 124
7, 060, 681	7, 003, 982	8, 965, 454	9, 322, 846	9, 986, 383	9, 852, 287	7, 223, 699	7, 807, 404	7, 615, 428

† To Egypt: Coin (chiefly for China, etc.), £25; bullion (chiefly for India), £6,683,431.



## XXXIV.—WORLD'S PRODUCTION OF GOLD AND SILVER.

[Kilogram of gold, \$664.60. Kilogram of silver, \$41.56.]

Countries.	1887.			
	Gold.		Silver.	
	<i>Kilos.</i>	<i>Dollars.</i>	<i>Kilos.</i>	<i>Dollars.</i>
United States.....	49,654	33,000,000	1,283,855	53,357,000
Australasia.....	41,119	27,327,600	6,422	266,900
Mexico.....	1,240	824,000	904,000	37,570,000
European Countries:				
Russia.....	30,232	20,092,000	13,522	562,000
Germany.....	2,251	1,496,000	31,564	1,311,798
Austria-Hungary.....	1,877	1,247,450	53,391	2,218,900
Sweden.....	84	55,550	5,828	242,250
Norway.....			47,200	299,000
Italy.....	c195	129,600	c33,839	1,406,350
Spain.....			58,711	2,440,000
Turkey.....	c10	7,000	c1,323	55,000
France.....			54,314	2,257,300
Great Britain.....	2	1,000	9,964	414,100
Dominion of Canada.....	1,773	1,178,637	10,868	451,680
South American Countries:				
Argentine Republic.....	45	30,000	722	30,000
Colombia.....	4,514	3,000,000	24,061	1,000,000
Bolivia.....	143	95,000	137,468	5,713,170
Chili.....	2,379	1,581,400	199,516	8,291,920
Brazil.....	984	654,000		
Venezuela.....	2,960	1,967,216		
Guiana (British).....	370	245,902		
Peru.....	c158	105,000	c75,263	3,128,000
Central American States.....	226	g150,000	48,123	g2,000,000
Japan.....	564	375,000	32,065	1,332,650
Africa.....	2,888	1,919,600	432	17,960
China.....	b14,294	9,500,000		
India (British).....	481	320,000		
Total.....	158,443	105,301,955	2,992,451	124,365,978

*a* Estimate of the Bureau of the Mint.*b* Imports of gold into Great Britain and British India from China.*c* Estimated the same as officially communicated for 1888, returns for 1889 not received.*d* Estimated the same as officially communicated for 1885.



## XXXIV.—WORLD'S PRODUCTION OF GOLD AND SILVER.

Coining ratio in United States silver dollars.]

1888.				1889.			
Gold.		Silver.		Gold.		Silver.	
<i>Kilos.</i>	<i>Dollars.</i>	<i>Kilos.</i>	<i>Dollars.</i>	<i>Kilos.</i>	<i>Dollars.</i>	<i>Kilos.</i>	<i>Dollars.</i>
49,917	33,175,000	1,424,326	59,195,000	49,353	32,800,000	1,555,486	64,646,000
42,974	28,560,660	120,308	a5,000,000	49,784	33,086,700	144,369	a6,000,000
1,465	974,000	995,500	41,373,000	c1,465	974,000	1,335,828	55,517,000
32,052	21,302,000	14,523	604,000	c32,052	21,302,000	c14,523	604,000
1,792	1,190,963	32,051	1,332,022	1,958	1,301,286	32,040	1,331,576
f1,877	1,247,450	f53,391	2,218,900	f1,877	1,247,450	f53,391	2,218,900
76	50,000	4,648	193,000	c76	50,000	c4,648	193,000
-----	-----	d7,200	299,000	-----	-----	d7,200	299,000
160	106,000	34,280	1,424,600	c160	106,000	c34,280	1,424,600
-----	-----	51,502	2,140,400	-----	-----	c51,502	2,140,400
e10	7,000	e1,323	55,000	e10	7,000	e1,323	55,000
-----	-----	49,396	2,053,000	-----	-----	c49,396	2,053,000
220	146,000	9,047	376,000	97	64,370	8,734	363,000
1,673	1,111,959	f10,868	451,680	1,919	1,275,045	f10,868	451,680
47	31,000	10,226	425,000	c47	31,000	c10,226	425,000
4,514	3,000,000	24,061	1,000,000	4,514	3,000,000	24,061	1,000,000
90	59,800	230,460	9,578,000	c90	59,800	c230,460	9,578,000
2,953	1,962,430	185,851	7,723,957	c2,953	1,962,430	c185,851	7,723,957
670	445,300	-----	-----	670	c445,300	-----	-----
2,130	1,415,598	-----	-----	c2,130	1,415,598	-----	-----
450	299,070	-----	-----	687	456,580	-----	-----
158	105,000	75,263	3,128,000	c158	105,000	c75,263	3,128,000
226	g150,000	48,123	g2,000,000	226	g150,000	48,123	g2,000,000
h606	403,000	h42,424	1,763,140	h606	403,000	h42,424	1,763,140
6,771	4,500,000	-----	-----	12,155	8,078,000	-----	-----
b13,542	9,000,000	-----	-----	13,542	c9,000,000	-----	-----
1,032	685,720	-----	-----	2,273	1,511,000	-----	-----
165,405	109,927,950	3,424,771	142,333,699	178,802	118,831,559	3,919,996	162,915,253

e Estimated the same as officially communicated for 1886.

f Estimated the same as officially communicated for 1887.

g Rough estimates, based on exports.

h Product of private mines in 1888; Government mines in 1889.

## XXXV.—COINAGES OF NATIONS—CALENDAR YEARS.

Countries.	1887.		1888.		1889.	
	Gold.	Silver.	Gold.	Silver.	Gold.	Silver.
United States.....	\$23, 972, 383	\$35, 191, 081	\$31, 380, 808	\$33, 025, 606	\$21, 413, 931	\$35, 496, 683
Mexico .....	398, 647	26, 844, 031	300, 480	26, 658, 964	*334, 972	*26, 031, 222
Great Britain .....	9, 728, 498	4, 142, 136	9, 893, 375	3, 681, 886	36, 502, 536	10, 827, 602
Australia .....	24, 122, 267	.....	24, 415, 230	.....	29, 325, 529	.....
India† .....	4, 249	44, 142, 013	107, 101	36, 297, 132	109, 190	37, 937, 814
Canada .....	.....	85, 000	.....	247, 174	.....	.....
France.....	4, 760, 960	1, 719, 742	106, 949	1, 112, 379	3, 373, 215	71
Cochin-China .....	.....	3, 126, 410	.....	1, 100, 518	.....	1, 302, 581
Monaco .....	.....	.....	.....	.....	.....	.....
Belgium .....	.....	583, 632	.....	.....	.....	.....
Italy .....	.....	6, 253, 200	469, 750	.....	.....	.....
Switzerland.....	.....	270, 200	16, 984	.....	386, 000	217, 125
Spain .....	.....	11, 389, 414	.....	4, 436, 804	3, 378, 631	4, 931, 936
Portugal.....	270, 000	960, 120	102, 600	1, 533, 600	.....	.....
Netherlands .....	163, 831	76, 380	143, 051	.....	823, 943	132, 660
Germany .....	28, 135, 270	715, 343	34, 340, 722	989, 127	48, 166, 245	177, 079
Austria-Hungary †.....	2, 669, 750	5, 556, 395	2, 747, 633	5, 516, 190	3, 294, 987	4, 528, 259
Norway .....	.....	80, 400	.....	53, 600	.....	.....
Sweden .....	314, 830	56, 082	.....	16, 714	.....	.....
Denmark .....	.....	.....	.....	62, 483	.....	27, 607
Russia§.....	20, 109, 276	1, 551, 710	20, 460, 491	1, 163, 126	18, 847, 097	1, 153, 651
Turkey .....	.....	.....	66, 000	74, 448	.....	.....
Siam .....	.....	2, 216, 065	.....	.....	.....	.....
Egypt .....	246, 354	2, 159, 090	257, 154	8, 483	.....	.....
Japan .....	897, 420	10, 279, 555	974, 335	10, 222, 108	1, 775, 010	9, 516, 369
Hayti .....	.....	500, 000	.....	.....	.....	.....
Chili .....	25, 360	333, 000	42, 170	122, 375	.....	.....
Argentine Republic .....	9, 173, 370	.....	8, 316, 325	.....	.....	.....
Pern .....	.....	1, 685, 000	.....	3, 258, 000	.....	.....
Colombia .....	.....	663, 069	.....	600, 443	.....	.....
Venezuela .....	.....	.....	660, 500	272, 000	.....	.....
Guatemala.....	.....	.....	.....	.....	.....	.....
Brazil .....	.....	.....	26, 082	883, 555	.....	.....
Honduras.....	.....	71, 978	.....	.....	.....	.....
Congo .....	.....	19, 300	.....	.....	.....	.....
Nicaragua .....	.....	400, 000	.....	.....	.....	.....
Straits Settlements .....	.....	177, 000	.....	244, 000	.....	.....
Ecuador .....	.....	.....	.....	473, 177	.....	.....
Hong-Kong .....	.....	400, 000	.....	1, 105, 000	.....	.....
Costa Rica.....	.....	.....	.....	.....	.....	.....
Bolivia .....	.....	1, 763, 451	.....	1, 763, 452	.....	.....
Total .....	124, 992, 465	163, 411, 397	134, 827, 740	134, 922, 344	167, 731, 286	132, 280, 659

\* Fiscal year 1889.

† Rupee calculated at coining rate, \$0.4737.

‡ Silver florin calculated at coining rate, \$0.482.

§ Silver rouble calculated at coining rate, \$0.7718.

XXXVI.—AVERAGE ANNUAL RATE OF DISCOUNT IN EUROPE EACH YEAR, 1885-1889.

Chief cities.	1885.	1886.	1887.	1888.	1889.
	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
Amsterdam .....	2.71	2.50	2.50	2.50	2.50
Berlin.....	4.14	3.29	3.40	3.33	3.68
Brussels .....	3.23	2.75	3.06	3.27	3.54
London .....	2.91	3.04	3.38	3.30	3.56
Paris.....	3.00	3.00	3.00	3.10	3.10
Rome .....			5.50	5.50	5.22
St. Petersburg .....			5.05	5.34	5.75
Vienna.....	4.04	4.00	4.12	4.16	4.19



XXXVII.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR  
[Coinage of the mint at Philadelphia from

Calendar years.	GOLD COINAGE.					
	Double-eagles.	Eagles.	Half-eagles.	Three dollars.	Quarter-eagles.	Dollars.
1793 to 1795.....		\$27, 950	\$43, 535			
1796.....		60, 800	16, 995		\$165. 00	
1797.....		91, 770	32, 030		4, 390. 00	
1798.....		79, 740	124, 335		1, 535. 00	
1799.....		174, 830	37, 255		1, 200. 00	
1800.....		259, 650	58, 110			
1801.....		292, 540	130, 030			
1802.....		150, 900	265, 880		6, 530. 00	
1803.....		89, 790	167, 530		1, 057. 50	
1804.....		97, 950	152, 375		8, 317. 50	
1805.....			165, 915		4, 452. 50	
1806.....			320, 465		4, 040. 00	
1807.....			420, 465		17, 030. 00	
1808.....			277, 890		6, 775. 00	
1809.....			169, 375			
1810.....			501, 435			
1811.....			497, 905			
1812.....			290, 435			
1813.....			477, 140			
1814.....			77, 270			
1815.....			3, 175			
1816.....						
1817.....						
1818.....			242, 940			
1819.....			258, 615			
1820.....			1, 319, 030			
1821.....			173, 205		16, 120. 00	
1822.....			88, 980			
1823.....			72, 425			
1824.....			86, 700		6, 500. 00	
1825.....			145, 300		11, 085. 00	
1826.....			90, 345		1, 900. 00	
1827.....			124, 565		7, 000. 00	
1828.....			140, 145			
1829.....			287, 210		8, 507. 50	
1830.....			631, 755		11, 350. 00	
1831.....			702, 970		11, 300. 00	
1832.....			787, 435		11, 000. 00	
1833.....			968, 150		10, 400. 00	
1834.....			3, 660, 845		293, 425. 00	
1835.....			1, 857, 670		328, 505. 00	
1836.....			2, 765, 735		1, 369, 965. 00	
1837.....			1, 035, 605		112, 700. 00	
1838.....		72, 000	1, 432, 940		117, 575. 00	
1839.....		382, 480	590, 715		67, 552. 50	
1840.....		473, 380	686, 910		47, 147. 50	
1841.....		631, 310	79, 165			
1842.....		815, 070	137, 890		7, 057. 50	
1843.....		754, 620	3, 056, 025		251, 365. 00	

NOTE.—Not susceptible of exact statement by years of actual date of coin, the registry of annual having been invariably completed within the year of the date of coin, as now required.

ORGANIZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES.  
its organization, 1793, to Decembor 31, 1889.]

SILVER COINAGE.							
Trade dollars.	Dollars.	Half-dollars.	Quarter-dollars.	Twenty cents.	Dimes.	Half-dimes.	Three cents.
-----	\$204, 791. 00	\$161, 572. 00	-----	-----	-----	\$4, 320. 80	-----
-----	72, 920. 00	-----	\$1, 473. 50	-----	\$2, 213. 50	511. 50	-----
-----	7, 776. 00	1, 959. 00	63. 00	-----	2, 526. 10	2, 226. 35	-----
-----	327, 536. 00	-----	-----	-----	2, 755. 00	-----	-----
-----	423, 515. 00	-----	-----	-----	-----	-----	-----
-----	220, 920. 00	-----	-----	-----	2, 176. 00	1, 200. 00	-----
-----	54, 454. 00	15, 144. 50	-----	-----	3, 464. 00	1, 695. 50	-----
-----	41, 650. 00	14, 945. 00	-----	-----	1, 097. 50	650. 50	-----
-----	66, 064. 00	15, 857. 50	-----	-----	3, 304. 00	1, 892. 50	-----
-----	19, 570. 00	78, 259. 50	1, 684. 50	-----	826. 50	-----	-----
-----	321. 00	105, 861. 00	30, 348. 50	-----	12, 078. 00	780. 00	-----
-----	-----	419, 788. 00	51, 531. 00	-----	-----	-----	-----
-----	-----	525, 788. 00	55, 160. 75	-----	16, 500. 00	-----	-----
-----	-----	684, 300. 00	-----	-----	-----	-----	-----
-----	-----	702, 905. 00	-----	-----	4, 471. 00	-----	-----
-----	-----	638, 138. 00	-----	-----	635. 50	-----	-----
-----	-----	601, 822. 00	-----	-----	6, 518. 00	-----	-----
-----	-----	814, 029. 50	-----	-----	-----	-----	-----
-----	-----	620, 951. 50	-----	-----	-----	-----	-----
-----	-----	519, 537. 50	-----	-----	42, 150. 00	-----	-----
-----	-----	-----	17, 308. 00	-----	-----	-----	-----
-----	-----	23, 575. 00	5, 000. 75	-----	-----	-----	-----
-----	-----	607, 783. 50	-----	-----	-----	-----	-----
-----	-----	980, 161. 00	90, 293. 50	-----	-----	-----	-----
-----	-----	1, 104, 000. 00	36, 000. 00	-----	-----	-----	-----
-----	-----	375, 561. 00	31, 861. 00	-----	94, 258. 70	-----	-----
-----	-----	652, 898. 50	54, 212. 75	-----	118, 651. 20	-----	-----
-----	-----	779, 786. 50	16, 020. 00	-----	10, 000. 00	-----	-----
-----	-----	847, 100. 00	4, 450. 00	-----	44, 000. 00	-----	-----
-----	-----	1, 752, 477. 00	-----	-----	-----	-----	-----
-----	-----	1, 471, 583. 00	42, 000. 00	-----	51, 000. 00	-----	-----
-----	-----	2, 002, 090. 00	-----	-----	-----	-----	-----
-----	-----	2, 746, 700. 00	1, 000. 00	-----	121, 500. 00	-----	-----
-----	-----	1, 537, 600. 00	25, 500. 00	-----	12, 500. 00	-----	-----
-----	-----	1, 856, 078. 00	-----	-----	77, 000. 00	61, 500. 00	-----
-----	-----	2, 382, 400. 00	-----	-----	51, 000. 00	62, 000. 00	-----
-----	-----	2, 936, 830. 00	99, 500. 00	-----	77, 135. 00	62, 135. 00	-----
-----	-----	2, 398, 500. 00	80, 000. 00	-----	52, 250. 00	48, 250. 00	-----
-----	-----	2, 603, 000. 00	39, 000. 00	-----	48, 500. 00	68, 500. 00	-----
-----	-----	3, 206, 002. 00	71, 500. 00	-----	63, 500. 00	74, 000. 00	-----
-----	-----	2, 676, 003. 00	488, 000. 00	-----	141, 000. 00	138, 000. 00	-----
-----	1, 000. 00	3, 273, 100. 00	118, 000. 00	-----	119, 000. 00	95, 000. 00	-----
-----	-----	1, 814, 910. 00	63, 100. 00	-----	104, 200. 00	113, 800. 00	-----
-----	-----	1, 773, 000. 00	208, 000. 00	-----	199, 250. 00	112, 750. 00	-----
-----	300. 00	1, 667, 280. 00	122, 786. 50	-----	105, 311. 50	53, 457. 50	-----
-----	61, 005. 00	717, 504. 00	47, 031. 75	-----	135, 858. 00	67, 204. 25	-----
-----	173, 000. 00	155, 000. 00	30, 000. 00	-----	162, 250. 00	57, 500. 00	-----
-----	184, 618. 00	1, 006, 382. 00	22, 000. 00	-----	188, 750. 00	40, 750. 00	-----
-----	165, 100. 00	1, 922, 000. 00	161, 400. 00	-----	137, 000. 00	58, 250. 00	-----

coinage being of coin delivered by coiners of mints within the given year, and these deliveries not

## XXXVII.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR ORGANIZATION

[Coinage of the mint at Philadelphia from 1792 to 1890]

Calendar years.	GOLD COINAGE.					
	Double-eagles.	Eagles.	Half-eagles.	Three dollars.	Quarter-eagles.	Dollars.
1844.....		\$63, 610	\$1, 701, 650		\$16, 960. 00	
1845.....		261, 530	2, 085, 495		227, 627. 50	
1846.....		200, 960	1, 979, 710		53, 995. 00	
1847.....		8, 622, 580	4, 579, 905		74, 535. 00	
1848.....		1, 454, 840	1, 303, 875		22, 215. 00	
1849.....		6, 536, 180	665, 350		58, 235. 00	\$682, 567
1850.....	\$23, 405, 220	2, 914, 510	322, 455		632, 307. 50	481, 953
1851.....	41, 743, 100	1, 763, 280	1, 887, 525		3, 431, 870. 00	3, 317, 671
1852.....	41, 060, 520	2, 631, 060	2, 869, 505		2, 899, 202. 50	2, 045, 351
1853.....	25, 226, 520	2, 012, 530	1, 528, 850		3, 511, 670. 00	4, 076, 051
1854.....	15, 157, 980	542, 500	803, 375	\$415, 854	1, 490, 645. 00	1, 639, 445
1855.....	7, 293, 320	1, 217, 010	585, 490	151, 665	588, 700. 00	758, 269
1856.....	6, 597, 560	604, 900	989, 950	78, 030	960, 600. 00	1, 762, 936
1857.....	8, 787, 500	166, 060	490, 910	62, 673	535, 325. 00	774, 789
1858.....	4, 234, 280	25, 210	75, 680	6, 399	118, 442. 50	117, 995
1859.....	871, 940	160, 930	81, 070	46, 914	98, 610. 00	168, 244
1860.....	11, 553, 400	117, 830	99, 125	21, 465	56, 687. 50	36, 668
1861.....	59, 529, 060	1, 132, 330	3, 199, 750	18, 216	3, 181, 295. 00	527, 499
1862.....	1, 842, 660	109, 950	22, 325	17, 355	280, 882. 50	1, 326, 865
1863.....	2, 855, 800	12, 480	12, 360	15, 117	75. 00	6, 250
1864.....	4, 085, 700	35, 800	21, 100	8, 040	7, 185. 00	5, 950
1865.....	7, 024, 000	40, 050	6, 475	3, 495	3, 862. 50	3, 725
1866.....	13, 975, 500	37, 800	33, 600	12, 090	7, 775. 00	7, 180
1867.....	5, 021, 300	31, 400	34, 600	7, 950	8, 125. 00	5, 250
1868.....	1, 972, 000	106, 550	28, 625	14, 625	9, 062. 50	10, 525
1869.....	3, 503, 100	18, 550	8, 925	7, 575	10, 862. 50	5, 925
1870.....	3, 103, 700	25, 350	20, 175	10, 605	11, 387. 50	6, 335
1871.....	1, 603, 000	17, 800	16, 150	3, 990	13, 375. 00	3, 930
1872.....	5, 037, 600	16, 500	8, 450	6, 090	7, 575. 00	3, 530
1873.....	34, 196, 500	8, 250	562, 525	75	445, 062. 50	125, 125
1874.....	7, 336, 000	531, 600	17, 540	125, 460	9, 850. 00	198, 820
1875.....	5, 914, 800	1, 200	1, 100	60	1, 050. 00	420
1876.....	11, 678, 100	7, 320	7, 385	135	10, 552. 50	3, 245
1877.....	7, 953, 400	8, 170	5, 760	4, 464	4, 130. 00	3, 920
1878.....	10, 872, 900	738, 000	658, 700	246, 972	715, 650. 00	3, 020
1879.....	4, 152, 600	3, 847, 700	1, 509, 750	9, 090	222, 475. 00	3, 030
1880.....	1, 029, 120	16, 448, 760	15, 832, 180	3, 108	7, 490. 00	1, 636
1881.....	45, 200	38, 772, 600	28, 544, 000	1, 650	1, 700. 00	7, 660
1882.....	12, 600	23, 244, 800	12, 572, 800	4, 620	10, 100. 00	5, 040
1883.....	800	2, 087, 400	1, 167, 200	2, 820	4, 900. 00	10, 840
1884.....	1, 420	769, 050	955, 240	3, 318	4, 982. 50	6, 206
1885.....	16, 560	2, 535, 270	3, 007, 530	2, 730	2, 217. 50	12, 205
1886.....	22, 120	2, 361, 600	1, 942, 160	3, 426	10, 220. 00	6, 016
1887.....	2, 420	536, 800	435	18, 480	15, 705. 00	8, 543
1888.....	4, 525, 320	1, 329, 960	91, 480	15, 873	40, 245. 00	16, 080
1889.....	882, 220	44, 850	37, 825	7, 287	44, 120. 00	30, 729
Total.....	384, 126, 840	128, 608, 180	118, 031, 910	1, 357, 716	22, 615, 487. 50	18, 223, 438



ZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES—Continued.

its organization, 1793, to December 31, 1889.]

SILVER COINAGE.							
Trade dollars.	Dollars.	Half-dollars.	Quarter- dollars.	Twenty cents.	Dimes.	Half-dimes.	Three cents.
.....	\$20,000	\$883,000.00	\$105,300.00	.....	\$7,250.00	\$21,500.00	.....
.....	24,500	294,500.00	230,500.00	.....	175,500.00	78,200.00	.....
.....	110,600	1,105,000.00	127,500.00	.....	3,130.00	1,350.00	.....
.....	140,750	578,000.00	183,500.00	.....	24,500.00	63,700.00	.....
.....	15,000	290,000.00	36,500.00	.....	45,150.00	33,400.00	.....
.....	62,600	626,000.00	85,000.00	.....	83,900.00	65,450.00	.....
.....	7,500	113,500.00	47,700.00	.....	193,150.00	47,750.00	.....
.....	1,300	100,375.00	40,000.00	.....	102,650.00	39,050.00	\$163,422.00
.....	1,100	38,565.00	44,265.00	.....	153,550.00	50,025.00	559,905.00
.....	46,110	1,766,354.00	3,813,555.00	.....	1,217,301.00	667,251.00	342,000.00
.....	33,140	1,491,000.00	3,095,000.00	.....	447,000.00	287,000.00	20,130.00
.....	26,000	379,750.00	714,250.00	.....	207,500.00	87,500.00	4,170.00
.....	63,500	469,000.00	1,816,000.00	.....	578,000.00	244,000.00	43,740.00
.....	94,000	994,000.00	2,411,000.00	.....	558,000.00	364,000.00	31,260.00
.....	.....	2,113,000.00	1,842,000.00	.....	154,000.00	175,000.00	48,120.00
.....	256,500	374,000.00	336,000.00	.....	43,000.00	17,000.00	10,950.00
.....	218,930	151,850.00	201,350.00	.....	60,700.00	39,950.00	8,610.00
.....	78,500	1,444,200.00	1,213,650.00	.....	192,400.00	164,050.00	14,940.00
.....	12,090	126,175.00	233,137.50	.....	84,755.00	74,627.50	10,906.50
.....	27,660	251,830.00	48,015.00	.....	1,446.00	923.00	643.80
.....	31,170	189,785.00	23,517.50	.....	3,907.00	23.50	14.10
.....	47,000	255,950.00	14,825.00	.....	1,050.00	675.00	255.00
.....	49,625	372,812.50	4,381.25	.....	872.50	536.25	681.75
.....	60,325	212,162.50	5,156.25	.....	662.50	431.25	138.75
.....	182,700	189,100.00	7,500.00	.....	46,625.00	4,295.00	123.00
.....	424,300	397,950.00	4,150.00	.....	25,660.00	10,430.00	153.00
.....	433,000	300,450.00	21,850.00	.....	47,150.00	26,830.00	120.00
.....	1,115,760	582,680.00	42,808.00	.....	75,361.00	74,443.00	127.80
.....	1,106,450	440,775.00	45,737.50	.....	239,645.00	147,397.50	58.50
.....	\$397,500	293,600	1,308,750.00	.....	394,710.00	35,630.00	18.00
.....	987,800	.....	1,180,150.00	.....	294,070.00	.....	.....
.....	218,900	.....	3,013,750.00	.....	1,035,070.00	.....	.....
.....	456,150	.....	4,209,575.00	.....	1,146,115.00	.....	.....
.....	3,039,710	.....	4,152,255.00	.....	731,051.00	.....	.....
.....	900	10,509,550	689,200.00	.....	167,880.00	.....	.....
.....	1,541	14,807,100	2,950.00	.....	1,510.00	.....	.....
.....	1,987	12,601,355	4,877.50	.....	3,735.50	.....	.....
.....	960	9,163,975	5,487.50	.....	2,497.50	.....	.....
.....	1,097	11,101,100	2,750.00	.....	391,110.00	.....	.....
.....	979	12,291,039	4,519.50	.....	767,571.20	.....	.....
.....	.....	14,070,875	2,637.50	.....	336,638.00	.....	.....
.....	.....	17,787,767	3,065.00	.....	253,342.70	.....	.....
.....	.....	19,963,886	2,943.00	.....	637,757.00	.....	.....
.....	.....	20,290,710	2,855.00	.....	1,128,393.90	.....	.....
.....	.....	19,183,833	6,416.50	.....	549,648.70	.....	.....
.....	.....	21,726,811	6,355.80	.....	738,071.10	.....	.....
5,107,524	190,506,251	82,320,463.50	28,152,692.00	11,342	15,567,616.10	3,948,791.90	1,260,487.20

XXXVII.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR ORGANIZATION TO THE PRESENT TIME.  
[Coinage of the mint at Philadelphia from 1793 to 1834.]

Calendar years.	MINOR COINAGE.		
	Five cents.	Three cents.	Two cents.
1793-1795.....			
1796.....			
1797.....			
1798.....			
1799.....			
1800.....			
1801.....			
1802.....			
1803.....			
1804.....			
1805.....			
1806.....			
1807.....			
1808.....			
1809.....			
1810.....			
1811.....			
1812.....			
1813.....			
1814.....			
1815.....			
1816.....			
1817.....			
1818.....			
1819.....			
1820.....			
1821.....			
1822.....			
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1825.....			
1826.....			
1827.....			
1828.....			
1829.....			
1830.....			
1831.....			
1832.....			
1833.....			
1834.....			
1835.....			
1836.....			
1837.....			
1838.....			
1839.....			
1840.....			
1841.....			
1842.....			
1843.....			

## ZATION BY CALENDAR YEARS AND BY DENOMINATION OF PIECES—Continued.

its organization, 1793, to December 31, 1880.]

MINOR COINAGE.		TOTAL COINAGE.			
Cents.	Half-cents.	Gold.	Silver.	Minor.	Total.
\$10,660.33	\$712.67	\$71,485.00	\$370,683.80	\$11,373.00	\$453,541.80
9,747.00	577.40	77,960.00	77,118.50	10,324.40	165,402.90
8,975.10	535.24	128,190.00	14,550.45	9,510.34	152,250.79
9,797.00	-----	205,610.00	330,291.00	9,797.00	545,698.00
9,045.85	60.83	213,285.00	423,515.00	9,106.68	645,906.68
28,221.75	1,057.65	317,760.00	224,296.00	29,279.40	571,335.40
13,628.37	-----	422,570.00	74,758.00	13,628.37	510,956.37
34,351.00	71.83	423,310.00	58,343.00	34,422.83	516,075.83
24,713.53	489.50	258,377.50	87,118.00	25,203.03	370,698.53
7,568.38	5,276.56	258,642.50	100,340.50	12,844.94	371,827.94
9,411.16	4,072.32	170,367.50	149,388.50	13,483.48	333,239.48
3,480.00	1,780.00	324,505.00	471,319.00	5,260.00	801,084.00
7,272.21	2,380.00	437,495.00	597,448.75	9,652.21	1,044,595.96
11,090.00	2,000.00	284,665.00	684,300.00	13,090.00	982,055.00
2,228.67	5,772.86	169,375.00	707,376.00	8,001.53	884,752.53
14,585.00	1,075.00	501,435.00	638,773.50	15,660.00	1,155,868.50
2,180.25	315.70	497,905.00	608,340.00	2,495.95	1,108,740.95
10,755.00	-----	290,435.00	814,029.50	10,755.00	1,115,219.50
4,180.00	-----	477,140.00	620,951.50	4,180.00	1,102,271.50
3,578.30	-----	77,270.00	561,687.50	3,578.30	642,535.80
-----	-----	3,175.00	17,308.00	-----	20,483.00
28,209.82	-----	-----	28,575.75	28,209.82	56,785.57
39,484.00	-----	-----	607,783.50	39,484.00	647,267.50
31,670.00	-----	242,940.00	1,070,454.50	31,670.00	1,345,064.50
26,710.00	-----	258,615.00	1,140,000.00	26,710.00	1,425,325.00
44,075.50	-----	1,319,030.00	501,680.70	44,075.50	1,864,786.20
3,890.00	-----	189,325.00	825,762.45	3,890.00	1,018,977.45
20,723.39	-----	88,980.00	805,806.50	20,723.39	915,509.89
-----	-----	72,425.00	895,550.00	-----	967,975.00
12,620.00	-----	93,200.00	1,752,477.00	12,620.00	1,858,297.00
14,611.00	315.00	156,385.00	1,564,583.00	14,926.00	1,735,894.00
15,174.25	1,170.00	92,245.00	2,002,090.00	16,344.25	2,110,679.25
23,577.32	-----	131,565.00	2,869,200.00	23,577.32	3,024,342.32
22,606.24	3,030.00	140,145.00	1,575,600.00	25,636.24	1,741,381.24
14,145.00	2,435.00	295,717.50	1,994,578.00	16,580.00	2,306,875.50
17,115.00	-----	643,105.00	2,495,400.00	17,115.00	3,155,620.00
33,592.60	11.00	714,270.00	3,175,600.00	33,603.60	3,923,473.60
23,620.00	-----	798,435.00	2,579,000.00	23,620.00	3,401,055.00
27,390.00	770.00	978,550.00	2,759,000.00	28,160.00	3,765,710.00
18,551.00	600.00	3,954,270.00	3,415,002.00	19,151.00	7,388,423.00
38,784.00	705.00	2,186,175.00	3,443,003.00	39,489.00	5,668,667.00
21,110.00	1,990.00	4,135,700.00	3,606,100.00	23,100.00	7,764,900.00
55,583.00	-----	1,148,305.00	2,096,010.00	55,583.00	3,299,898.00
63,702.00	-----	1,622,515.00	2,293,000.00	63,702.00	3,979,217.00
31,286.61	-----	1,040,747.50	1,949,135.50	31,286.61	3,021,169.61
24,627.00	-----	1,207,437.50	1,028,603.00	24,627.00	2,200,667.50
15,973.67	-----	710,475.00	577,750.00	15,973.67	1,304,198.67
23,833.90	-----	960,017.50	1,442,500.00	23,833.90	2,426,351.40
24,283.20	-----	4,062,010.00	2,443,750.00	24,283.20	6,530,043.20



XXXVII.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR ORGANIZATION

[Coinage of the mint at Philadelphia from 1792 to 1834.]

Calendar years.	MINOR COINAGE.		
	Five cents.	Three cents.	Two cents.
1844.....	.....	.....	.....
1845.....	.....	.....	.....
1846.....	.....	.....	.....
1847.....	.....	.....	.....
1848.....	.....	.....	.....
1849.....	.....	.....	.....
1850.....	.....	.....	.....
1851.....	.....	.....	.....
1852.....	.....	.....	.....
1853.....	.....	.....	.....
1854.....	.....	.....	.....
1855.....	.....	.....	.....
1856.....	.....	.....	.....
1857.....	.....	.....	.....
1858.....	.....	.....	.....
1859.....	.....	.....	.....
1860.....	.....	.....	.....
1861.....	.....	.....	.....
1862.....	.....	.....	.....
1863.....	.....	.....	.....
1864.....	.....	.....	\$396,950.00
1865.....	.....	\$341,460.00	272,800.00
1866.....	\$737,125.00	144,030.00	63,540.00
1867.....	1,545,475.00	117,450.00	58,775.00
1868.....	1,440,850.00	97,560.00	56,075.00
1869.....	819,750.00	48,120.00	30,930.00
1870.....	240,300.00	40,050.00	17,225.00
1871.....	28,050.00	18,120.00	14,425.00
1872.....	301,800.00	25,860.00	1,300.00
1873.....	227,500.00	35,190.00	.....
1874.....	176,900.00	23,700.00	.....
1875.....	104,850.00	6,840.00	.....
1876.....	126,500.00	4,860.00	.....
1877.....	.....	.....	.....
1878.....	117.50	70.50	.....
1879.....	1,455.00	1,236.00	.....
1880.....	997.75	748.65	.....
1881.....	3,618.75	32,417.25	.....
1882.....	573,830.00	759.00	.....
1883.....	1,148,471.05	318.27	.....
1884.....	563,697.10	169.26	.....
1885.....	73,824.50	143.70	.....
1886.....	166,514.50	128.70	.....
1887.....	763,182.60	238.83	.....
1888.....	536,024.15	1,232.49	.....
1889.....	794,068.05	646.83	.....
Total .....	10,374,900.95	941,349.48	912,020.00

ZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES—Continued.

its organization, 1793, to December 31, 1889.]

MINOR COINAGE.		TOTAL COINAGE.			
Cents.	Half-cents.	Gold.	Silver.	Minor.	Total.
\$23, 987. 52	.....	\$1, 782, 220. 00	\$1, 037, 050. 00	\$23, 987. 52	\$2, 843, 257. 52
38, 948. 04	.....	2, 574, 652. 50	803, 200. 00	38, 948. 04	3, 416, 800. 54
41, 208. 00	.....	2, 234, 655. 00	1, 347, 580. 00	41, 208. 00	3, 623, 443. 00
61, 836. 69	.....	13, 277, 020. 00	990, 450. 00	61, 836. 69	14, 329, 306. 69
64, 157. 99	.....	2, 780, 930. 00	420, 050. 00	64, 157. 99	3, 265, 137. 99
41, 785. 00	\$199. 32	7, 948, 332. 00	922, 950. 00	41, 984. 32	8, 913, 266. 32
44, 268. 44	199. 06	27, 756, 445. 50	409, 600. 00	44, 467. 50	28, 210, 513. 00
98, 897. 07	738. 36	52, 143, 446. 00	446, 797. 00	99, 635. 43	52, 689, 878. 43
50, 630. 94	.....	51, 505, 638. 50	847, 410. 00	50, 630. 94	52, 403, 679. 44
66, 411. 31	648. 47	36, 355, 621. 00	7, 852, 571. 00	67, 059. 78	44, 275, 251. 78
42, 361. 56	276. 79	20, 049, 799. 00	5, 373, 270. 60	42, 638. 35	25, 465, 707. 35
15, 748. 29	282. 50	10, 594, 454. 00	1, 419, 170. 00	16, 030. 79	12, 029, 654. 79
26, 904. 63	202. 15	10, 993, 976. 00	3, 214, 240. 00	27, 106. 78	14, 235, 322. 78
177, 834. 56	175. 90	10, 817, 287. 00	4, 452, 260. 00	178, 010. 46	15, 447, 557. 46
246, 000. 00	.....	4, 578, 006. 50	4, 332, 120. 00	246, 000. 00	9, 156, 126. 50
364, 000. 00	.....	1, 430, 708. 00	1, 037, 450. 00	364, 000. 00	2, 832, 158. 00
205, 660. 00	.....	11, 885, 175. 50	681, 390. 00	205, 660. 00	12, 772, 225. 50
101, 000. 00	.....	67, 588, 150. 00	3, 107, 740. 00	101, 000. 00	70, 796, 890. 00
280, 750. 00	.....	3, 600, 037. 50	541, 691. 50	280, 750. 00	4, 422, 479. 00
498, 400. 00	.....	2, 902, 082. 00	330, 517. 80	498, 400. 00	3, 730, 999. 80
529, 737. 14	.....	4, 163, 775. 00	248, 417. 10	926, 687. 14	5, 338, 879. 24
354, 292. 86	.....	7, 081, 607. 50	319, 755. 00	968, 552. 86	8, 369, 915. 36
98, 265. 00	.....	14, 073, 945. 00	428, 909. 25	1, 042, 960. 00	15, 545, 814. 25
98, 210. 00	.....	5, 108, 625. 00	278, 876. 25	1, 819, 910. 00	7, 207, 411. 25
102, 665. 00	.....	2, 141, 387. 50	430, 343. 00	1, 697, 150. 00	4, 268, 880. 50
64, 200. 00	.....	3, 554, 937. 50	862, 643. 00	963, 000. 00	5, 380, 580. 50
52, 750. 00	.....	3, 177, 552. 50	829, 400. 00	350, 325. 00	4, 357, 277. 50
39, 295. 00	.....	1, 658, 245. 00	1, 891, 179. 80	99, 890. 00	3, 649, 314. 80
40, 420. 00	.....	5, 079, 745. 00	1, 980, 063. 50	369, 380. 00	7, 429, 188. 50
116, 765. 00	.....	35, 337, 537. 50	2, 801, 283. 00	379, 455. 00	38, 518, 275. 50
141, 875. 00	.....	8, 219, 270. 00	2, 579, 995. 00	342, 475. 00	11, 141, 740. 00
135, 280. 00	.....	5, 918, 530. 00	5, 349, 035. 00	246, 970. 00	11, 514, 635. 00
79, 440. 00	.....	11, 706, 737. 50	10, 269, 307. 50	210, 800. 00	22, 186, 845. 00
8, 525. 00	.....	7, 979, 844. 00	10, 651, 045. 50	8, 525. 00	18, 639, 414. 50
57, 998. 50	.....	13, 235, 242. 00	11, 932, 850. 00	58, 186. 50	25, 226, 278. 50
162, 312. 00	.....	9, 744, 645. 00	14, 816, 776. 00	165, 003. 00	24, 726, 424. 00
389, 649. 55	.....	33, 322, 294. 00	12, 615, 693. 75	391, 395. 95	46, 329, 383. 70
392, 115. 75	.....	67, 372, 810. 00	9, 176, 163. 75	428, 151. 75	76, 977, 125. 50
385, 811. 00	.....	35, 849, 960. 00	11, 500, 132. 00	960, 400. 00	48, 310, 492. 00
455, 981. 09	.....	3, 273, 960. 00	13, 067, 968. 45	1, 604, 770. 41	17, 946, 698. 86
232, 617. 42	.....	1, 740, 216. 50	14, 412, 369. 25	796, 483. 78	16, 949, 069. 53
117, 653. 84	.....	5, 576, 512. 50	18, 047, 807. 20	191, 622. 04	23, 815, 941. 74
176, 542. 90	.....	4, 345, 542. 00	20, 606, 057. 50	343, 186. 10	25, 294, 785. 60
452, 264. 83	.....	582, 383. 00	21, 424, 636. 40	1, 215, 686. 26	23, 222, 705. 66
374, 944. 14	.....	6, 018, 958. 00	19, 742, 606. 45	912, 200. 78	26, 673, 765. 23
488, 693. 61	.....	1, 047, 031. 00	22, 474, 415. 35	1, 283, 408. 49	24, 804, 854. 84
8, 981, 512. 07	39, 926. 11	672, 963, 571. 50	326, 875, 167. 70	21, 249, 708. 61	1, 021, 088, 447. 81

## XXXVII.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR ORGANIZATION

[Coinage of the mint at New Orleans from its organization, 1838, to

Calendar years.	GOLD.						SILVER.
	Double-eagles.	Eagles.	Half-eagles.	Three dollars.	Quarter-eagles.	Dollars.	Dollars.
1838.....							
1839.....					\$44,452.50		
1840.....			\$152,000		65,500.00		
1841.....		\$25,000	41,750		18,450.00		
1842.....		274,000	82,000		49,500.00		
1843.....		1,751,620	505,375		920,005.00		
1844.....		1,187,000	1,823,000				
1845.....		475,000	205,000				
1846.....		817,800	290,000		165,000.00		\$59,000
1847.....		5,715,000	60,000		310,000.00		
1848.....		358,500					
1849.....		239,000				215,000	
1850.....	\$2,820,000	575,000			210,000.00	14,000	40,000
1851.....	6,300,000	2,630,000	205,000		370,000.00	290,000	
1852.....	3,800,000	180,000			350,000.00	140,000	
1853.....	1,420,000	510,000				290,000	
1854.....	65,000	525,000	230,000	\$72,000	382,500.00		
1855.....	160,000	180,000	55,500			55,000	
1856.....	45,000	145,000	50,000		52,750.00		
1857.....	600,000	55,000	65,000		85,000.00		
1858.....	705,000	200,000					
1859.....	182,000	23,000					360,000
1860.....	132,000	111,000					515,000
1861*.....	100,000						
1879.....	46,500	15,000					2,887,000
1880.....		92,000					5,305,000
1881.....		83,500					5,708,000
1882.....		108,200					6,090,000
1883.....		8,000					8,725,000
1884.....							9,730,000
1885.....							9,185,000
1886.....							10,710,000
1887.....							11,550,000
1888.....		213,350					12,150,000
1889.....							11,875,000
Total.....	16,375,500	16,496,970	3,764,625	72,000	3,023,157.50	1,004,000	94,889,000

\* No coinage from 1862 to 1878, inclusive.



ZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES—Continued.

its suspension, 1861, and from its re-opening, 1879, to December 31, 1889.]

SILVER—continued.					Total gold.	Total silver.	Total value.
Half-dollars.	Quarter-dollars.	Dimes.	Half-dimes.	Three cents.			
		\$40, 243. 40				\$40, 243. 40	\$40, 243. 40
\$81, 468		124, 327. 20	\$54, 827. 50		\$44, 452. 50	260, 642. 70	305, 095. 20
427, 550	\$106, 300	117, 500. 00	46, 750. 00		217, 500. 00	698, 100. 00	915, 600. 00
200, 500	113, 000	200, 750. 00	40, 750. 00		85, 200. 00	555, 000. 00	640, 200. 00
478, 500	192, 250	202, 000. 00	17, 500. 00		405, 500. 00	890, 250. 00	1, 295, 750. 00
1, 134, 000	242, 000	15, 000. 00			3, 177, 000. 00	1, 391, 000. 00	4, 568, 000. 00
1, 002, 500	185, 000		11, 000. 00		3, 010, 000. 00	1, 198, 500. 00	4, 208, 500. 00
1, 047, 000		23, 000. 00			680, 000. 00	1, 070, 000. 00	1, 750, 000. 00
1, 152, 000					1, 272, 800. 00	1, 211, 000. 00	2, 483, 800. 00
1, 292, 000	92, 000				6, 085, 000. 00	1, 384, 000. 00	7, 469, 000. 00
1, 590, 000			30, 000. 00		358, 500. 00	1, 620, 000. 00	1, 978, 500. 00
1, 155, 000		30, 000. 00	7, 000. 00		454, 000. 00	1, 192, 000. 00	1, 646, 000. 00
1, 228, 000	103, 000	51, 000. 00	34, 500. 00		3, 619, 000. 00	1, 456, 500. 00	5, 075, 500. 00
201, 000	22, 000	40, 000. 00	43, 000. 00	\$21, 600	9, 795, 000. 00	327, 600. 00	10, 122, 600. 00
72, 000	24, 000	43, 000. 00	13, 000. 00		4, 470, 000. 00	152, 000. 00	4, 622, 000. 00
664, 000	333, 000	110, 000. 00	118, 000. 00		2, 220, 000. 00	1, 225, 000. 00	3, 445, 000. 00
2, 620, 000	371, 000	177, 000. 00	78, 000. 00		1, 274, 500. 00	3, 246, 000. 00	4, 520, 500. 00
1, 844, 000	44, 000		30, 000. 00		450, 500. 00	1, 918, 000. 00	2, 368, 500. 00
1, 329, 000	242, 000	118, 000. 00	55, 000. 00		292, 750. 00	1, 744, 000. 00	2, 036, 750. 00
409, 000	295, 000	154, 000. 00	69, 000. 00		805, 000. 00	927, 000. 00	1, 732, 000. 00
3, 647, 000	130, 000	29, 000. 00	83, 000. 00		905, 000. 00	3, 889, 000. 00	4, 794, 000. 00
1, 417, 000	65, 000	48, 000. 00	28, 000. 00		205, 000. 00	1, 918, 000. 00	2, 123, 000. 00
645, 000	97, 000	4, 000. 00	53, 000. 00		243, 000. 00	1, 314, 000. 00	1, 557, 000. 00
165, 000					100, 000. 00	165, 000. 00	265, 000. 00
					61, 500. 00	2, 887, 000. 00	2, 948, 500. 00
					92, 000. 00	5, 305, 000. 00	5, 397, 000. 00
					83, 500. 00	5, 708, 000. 00	5, 791, 500. 00
					108, 200. 00	6, 090, 000. 00	6, 198, 200. 00
					8, 000. 00	8, 725, 000. 00	8, 733, 000. 00
						9, 730, 000. 00	9, 730, 000. 00
						9, 185, 000. 00	9, 185, 000. 00
						10, 710, 000. 00	10, 710, 000. 00
						11, 550, 000. 00	11, 550, 000. 00
					213, 350. 00	12, 150, 000. 00	12, 363, 350. 00
						11, 875, 000. 00	11, 875, 000. 00
23, 801, 538	2, 656, 550	1, 526, 820. 60	812, 327. 50	21, 600	40, 736, 252. 50	123, 707, 836. 10	164, 444, 088. 60

## XXXVII.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR ORGANIZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES—Continued.

[Coinage of the mint at Dahlonega, Ga., from its organization, 1838, to its suspension, 1861.]

Calendar year.	Gold.				Total.
	Half-eagles.	Three dollars.	Quarter-eagles.	Dollars.	
1838 .....	\$102,915				\$102,915.00
1839 .....	94,695		\$34,135.00		128,880.00
1840 .....	114,480		8,830.00		123,310.00
1841 .....	152,475		10,410.00		162,885.00
1842 .....	298,040		11,607.50		309,647.50
1843 .....	492,260		90,522.50		582,782.50
1844 .....	444,910		43,330.00		488,240.00
1845 .....	453,145		48,650.00		501,795.00
1846 .....	401,470		48,257.50		449,727.50
1847 .....	322,025		39,460.00		361,485.00
1848 .....	237,325		34,427.50		271,752.50
1849 .....	195,180		27,362.50	\$21,588	244,130.50
1850 .....	219,750		30,370.00	8,382	258,502.00
1851 .....	313,550		28,160.00	9,882	351,592.00
1852 .....	457,260		10,195.00	6,360	473,815.00
1853 .....	448,390		7,945.00	6,583	462,918.00
1854 .....	282,065	\$3,360	4,400.00	2,935	292,760.00
1855 .....	112,160		2,807.50	1,811	116,778.50
1856 .....	98,930		2,185.00	1,460	102,575.00
1857 .....	85,230		5,910.00	3,533	94,673.00
1858 .....	76,810			3,477	80,287.00
1859 .....	51,830		5,610.00	4,952	62,392.00
1860 .....	73,175			1,566	74,741.00
1861 .....	7,985				7,985.00
Total.....	5,536,055	3,360	494,625.00	72,529	6,106,569.00

**XXXVII.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR ORGANIZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES—Continued.**

[Coinage of the mint at Charlotte, N. C., from its organization, 1838, to its suspension, 1861.]

Calendar year.	Gold.			Total value.
	Half-eagles.	Quarter-eagles.	Dollars.	
1838.....	\$64,565	\$19,770.00	.....	\$84,335.00
1839.....	117,335	45,432.50	.....	162,767.50
1840.....	95,140	32,095.00	.....	127,235.00
1841.....	107,555	25,742.50	.....	133,297.50
1842.....	137,400	16,842.50	.....	154,242.50
1843.....	221,765	65,240.00	.....	287,005.00
1844*.....	118,155	29,055.00	.....	147,210.00
1845.....	.....	.....	.....	.....
1846.....	64,975	12,020.00	.....	76,995.00
1847.....	420,755	58,065.00	.....	478,820.00
1848.....	322,360	41,970.00	.....	364,330.00
1849.....	324,115	25,550.00	\$11,634	361,299.00
1850.....	317,955	22,870.00	6,966	347,791.00
1851.....	245,880	37,307.50	41,267	324,454.50
1852.....	362,870	24,430.00	9,434	396,734.00
1853.....	327,855	.....	11,515	339,370.00
1854.....	196,455	18,237.50	4	214,696.50
1855.....	198,940	9,192.50	9,803	217,935.50
1856.....	142,285	19,782.50	.....	162,067.50
1857.....	156,800	.....	13,280	170,080.00
1848.....	194,280	22,640.00	.....	216,920.00
1859.....	159,235	.....	5,235	164,470.00
1860.....	74,065	18,672.50	.....	92,737.50
1861.....	34,395	.....	.....	34,395.00
<b>Total.....</b>	<b>4,405,135</b>	<b>544,915.00</b>	<b>109,138</b>	<b>5,059,188.00</b>

\* Mint burned July 27, 1844.



## XXXVII.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR ORGANIZATION

[Coinage of the mint at San Francisco]

Calendar years.	GOLD.						SILVER.	
	Double-eagles.	Eagles.	Half-eagles.	Three-dollars.	Quarter-eagles.	Dollars.	Dollars.	Trade dollars.
1854 .....	\$2, 829, 360	\$1, 238, 260	\$1, 340	-----	\$615	\$14, 632	-----	-----
1855 .....	17, 593, 500	90, 000	305, 000	\$19, 800	-----	-----	-----	-----
1856 .....	23, 795, 000	680, 000	525, 500	103, 500	177, 800	24, 600	-----	-----
1857 .....	19, 410, 000	260, 000	435, 000	42, 000	170, 000	10, 000	-----	-----
1858 .....	16, 934, 200	118, 000	93, 000	-----	3, 000	10, 000	-----	-----
1859 .....	12, 728, 900	70, 000	66, 100	-----	38, 000	15, 000	\$20, 000	-----
1860 .....	10, 899, 000	50, 000	106, 000	21, 000	89, 000	13, 000	-----	-----
1861 .....	15, 360, 000	155, 000	90, 000	-----	60, 000	-----	-----	-----
1862 .....	17, 083, 460	125, 000	47, 500	-----	20, 000	-----	-----	-----
1863 .....	19, 331, 400	100, 000	85, 000	-----	27, 000	-----	-----	-----
1864 .....	15, 873, 200	25, 000	19, 440	-----	-----	-----	-----	-----
1865 .....	20, 850, 000	167, 000	138, 060	-----	58, 440	-----	-----	-----
1866 .....	16, 845, 000	200, 000	219, 600	-----	97, 400	-----	-----	-----
1867 .....	18, 415, 000	90, 000	145, 000	-----	70, 000	-----	-----	-----
1868 .....	16, 750, 000	135, 000	260, 000	-----	85, 000	-----	-----	-----
1869 .....	13, 735, 000	64, 300	155, 000	-----	73, 750	-----	-----	-----
1870 .....	19, 640, 000	80, 000	85, 000	-----	40, 000	3, 000	-----	-----
1871 .....	18, 560, 000	165, 000	125, 000	-----	55, 000	-----	-----	-----
1872 .....	15, 600, 000	173, 000	182, 000	-----	45, 000	-----	9, 000	-----
1873 .....	20, 812, 000	120, 000	155, 000	-----	67, 500	-----	700	\$703, 000
1874 .....	24, 280, 000	100, 000	80, 000	-----	-----	-----	-----	2, 549, 000
1875 .....	24, 600, 000	-----	45, 000	-----	29, 000	-----	-----	4, 487, 000
1876 .....	31, 940, 000	50, 000	20, 000	-----	12, 500	-----	-----	5, 227, 000
1877 .....	34, 700, 000	170, 000	133, 500	-----	88, 500	-----	-----	9, 519, 000
1878 .....	34, 780, 000	261, 000	723, 500	-----	445, 000	-----	9, 774, 000	4, 162, 000
1879 .....	24, 476, 000	2, 240, 000	2, 131, 000	-----	108, 750	-----	9, 110, 000	-----
1880 .....	16, 720, 000	5, 062, 500	6, 744, 500	-----	-----	-----	8, 900, 000	-----
1881 .....	14, 540, 000	9, 700, 000	4, 845, 000	-----	-----	-----	12, 760, 000	-----
1882 .....	22, 500, 000	1, 320, 000	4, 845, 000	-----	-----	-----	9, 250, 000	-----
1883 .....	23, 780, 000	380, 000	416, 000	-----	-----	-----	6, 250, 000	-----
1884 .....	18, 320, 000	1, 242, 500	885, 000	-----	-----	-----	3, 200, 000	-----
1885 .....	13, 670, 000	2, 280, 000	6, 057, 500	-----	-----	-----	1, 497, 000	-----
1886 .....	-----	8, 260, 000	16, 340, 000	-----	-----	-----	750, 000	-----
1887 .....	5, 660, 000	8, 170, 000	9, 560, 000	-----	-----	-----	1, 771, 000	-----
1888 .....	17, 192, 000	6, 487, 000	1, 469, 500	-----	-----	-----	657, 000	-----
1889 .....	15, 494, 000	4, 254, 000	-----	-----	-----	-----	700, 000	-----
Total .....	655, 697, 020	54, 082, 560	57, 534, 040	186, 300	1, 861, 255	90, 232	64, 648, 700	26, 647, 000

ZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES—Continued.

from its organization, 1854, to December 31, 1889.]

SILVER.					Total gold.	Total silver.	Total value.
Half-dollars.	Quarter-dollars.	Twenty cents.	Dimes.	Half-dimes.			
					\$4,084,207.00		\$4,084,207.00
\$64,975.00	\$99,100.00				18,008,300.00	\$164,075.00	18,172,375.00
105,500.00	71,500.00		\$7,000.00		25,306,400.00	184,000.00	25,490,400.00
79,000.00	20,500.00				20,327,000.00	99,500.00	20,426,500.00
238,000.00	30,250.00		6,000.00		17,158,200.00	274,250.00	17,432,450.00
283,000.00	20,000.00		6,000.00		12,918,000.00	329,000.00	13,247,000.00
236,000.00	14,000.00		14,000.00		11,178,000.00	264,000.00	11,442,000.00
469,750.00	24,000.00		17,250.00		15,665,000.00	511,000.00	16,176,000.00
676,000.00	16,750.00		18,075.00		17,275,960.00	710,825.00	17,986,785.00
458,000.00			15,750.00	\$5,000.00	19,543,400.00	478,750.00	20,022,150.00
329,000.00	5,000.00		23,000.00	4,500.00	15,917,640.00	361,500.00	16,279,140.00
337,500.00	10,250.00		17,500.00	6,000.00	21,213,500.00	371,250.00	21,584,750.00
527,000.00	7,000.00		13,500.00	6,000.00	17,362,000.00	553,500.00	17,915,500.00
598,000.00	12,000.00		14,000.00	6,000.00	18,720,000.00	630,000.00	19,350,000.00
580,000.00	24,000.00		26,000.00	14,000.00	17,230,000.00	644,000.00	17,874,000.00
328,000.00	19,000.00		45,000.00	11,500.00	14,028,050.00	403,500.00	14,431,550.00
502,000.00			5,000.00		19,848,000.00	507,000.00	20,355,000.00
1,089,000.00	7,725.00		32,000.00	8,050.00	18,905,000.00	1,136,775.00	20,041,775.00
290,000.00	20,750.00		19,000.00	41,850.00	16,000,000.00	380,600.00	16,380,600.00
116,500.00	39,000.00		45,500.00	16,200.00	21,154,500.00	920,900.00	22,075,400.00
197,000.00	98,000.00		24,000.00		24,460,000.00	2,868,000.00	27,328,000.00
1,600,000.00	170,000.00	\$231,000.00	907,000.00		24,674,000.00	7,395,000.00	32,069,000.00
2,264,000.00	2,149,000.00		1,042,000.00		32,022,500.00	10,682,000.00	42,704,500.00
2,678,000.00	2,249,000.00		234,000.00		35,092,000.00	14,680,000.00	49,772,000.00
6,000.00	35,000.00				36,209,500.00	13,977,000.00	50,186,500.00
					28,955,750.00	9,110,000.00	38,065,750.00
					28,527,000.00	8,900,000.00	37,427,000.00
					29,085,000.00	12,760,000.00	41,845,000.00
					28,665,000.00	9,250,000.00	37,915,000.00
					24,576,000.00	6,250,000.00	30,826,000.00
			56,496.00		20,447,500.00	3,256,496.90	23,703,996.90
			4,369.00		22,007,500.00	1,501,369.00	23,508,869.00
			20,652.40		24,600,000.00	770,652.40	25,370,652.40
			445,445.00		23,390,000.00	2,216,445.00	25,606,445.00
	304,000.00		172,000.00		25,148,500.00	1,133,000.00	26,281,500.00
			97,267.80		19,748,000.00	797,267.80	20,545,267.80
14,052,225.00	5,445,825.00	231,000.00	3,327,806.10	119,100.00	769,451,407.00	114,471,656.10	883,923,063.10

## XXXVII.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR ORGANIZATION

[Coinage of the mint at Carson City]

Calendar years.	GOLD.			SILVER.	
	Double-eagles.	Eagles.	Half-eagles.	Dollars.	Trade dollars.
1870.....	\$75, 780	\$59, 080	\$38, 375	\$12, 462	.....
1871.....	293, 740	71, 850	108, 850	1, 376	.....
1872.....	593, 000	55, 000	84, 900	3, 150	.....
1873.....	448, 200	45, 430	37, 080	2, 300	\$124, 500
1874.....	2, 301, 700	167, 670	105, 990	.....	1, 373, 200
1875.....	2, 223, 020	77, 150	59, 140	.....	1, 573, 700
1876.....	2, 768, 820	46, 960	34, 435	.....	509, 000
1877.....	851, 300	33, 320	43, 400	.....	534, 000
1878.....	263, 600	32, 440	45, 270	2, 212, 000	97, 000
1879.....	214, 160	17, 620	86, 405	756, 000	.....
1880.....	.....	111, 900	255, 085	591, 000	.....
1881.....	.....	240, 150	69, 430	296, 000	.....
1882.....	782, 800	67, 640	414, 085	1, 133, 000	.....
1883.....	1, 199, 240	120, 000	64, 790	1, 204, 000	.....
1884.....	1, 622, 780	99, 250	82, 010	1, 136, 000	.....
1885.....	189, 000	.....	.....	228, 000	.....
1886 * .....	.....	.....	.....	.....	.....
1887 * .....	.....	.....	.....	.....	.....
1888 * .....	.....	.....	.....	.....	.....
1889 † .....	618, 900	.....	.....	350, 000	.....
Total .....	14, 446, 040	1, 245, 460	1, 524, 245	7, 925, 288	4, 211, 400

\* Coinage suspended.



ZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES—Continued.

from its organization, 1870, to December 31, 1889.]

SILVER.				Total gold.	Total silver.	Total value.
Half-dollars.	Quarter-dollars.	Twenty cents.	Dimes.			
\$27,308.50	\$2,085.00	-----	-----	\$173,235	\$41,855.50	\$215,090.50
69,975.00	2,722.50	-----	\$2,010.00	469,440	76,083.50	545,523.50
136,000.00	2,275.00	-----	2,400.00	732,900	143,825.00	876,725.00
168,530.00	4,115.50	-----	3,119.10	530,710	302,564.60	833,274.60
29,500.00	-----	-----	1,081.70	2,575,360	1,403,781.70	3,979,141.70
504,000.00	35,000.00	\$26,658	464,500.00	2,359,310	2,603,858.00	4,963,168.00
978,000.00	1,236,000.00	2,000	827,000.00	2,850,215	3,552,000.00	6,402,215.00
710,000.00	1,048,000.00	-----	770,000.00	928,020	3,062,000.00	3,990,020.00
31,000.00	249,000.00	-----	20,000.00	341,310	2,609,000.00	2,950,310.00
-----	-----	-----	-----	318,185	756,000.00	1,074,185.00
-----	-----	-----	-----	366,985	591,000.00	957,985.00
-----	-----	-----	-----	309,580	296,000.00	605,580.00
-----	-----	-----	-----	1,264,525	1,133,000.00	2,397,525.00
-----	-----	-----	-----	1,384,030	1,204,000.00	2,588,030.00
-----	-----	-----	-----	1,804,040	1,136,000.00	2,940,040.00
-----	-----	-----	-----	189,000	228,000.00	417,000.00
-----	-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	618,900	350,000.00	968,900.00
2,654,313.50	2,579,198.00	28,658	2,090,110.80	17,215,745	19,488,968.30	36,704,713.30

† Operations resumed October 1, 1889.

**XXXVII.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR ORGANIZATION TO 1843.**  
RECAPITULATION.

Calendar years.	GOLD COINAGE.					
	Double-eagles.	Eagles.	Half-eagles.	Three dollars.	Quarter-eagles.	Dollars.
1793-1795.....		\$27, 950	\$43, 535			
1796.....		60, 800	16, 995		\$165. 00	
1797.....		91, 770	32, 030		4, 390. 00	
1798.....		79, 740	124, 335		1, 535. 00	
1799.....		174, 830	37, 255		1, 200. 00	
1800.....		259, 650	58, 110			
1801.....		292, 540	130, 030			
1802.....		150, 900	265, 880		6, 530. 00	
1803.....		89, 790	167, 530		1, 057. 50	
1804.....		97, 950	152, 375		8, 317. 50	
1805.....			165, 915		4, 452. 50	
1806.....			320, 465		4, 040. 00	
1807.....			420, 465		17, 030. 00	
1808.....			277, 890		6, 775. 00	
1809.....			169, 375			
1810.....			501, 435			
1811.....			497, 905			
1812.....			290, 435			
1813.....			477, 140			
1814.....			77, 270			
1815.....			3, 175			
1816.....						
1817.....						
1818.....			242, 940			
1819.....			258, 615			
1820.....			1, 319, 030			
1821.....			173, 205		16, 120. 00	
1822.....			88, 980			
1823.....			72, 425			
1824.....			86 700		6, 500. 00	
1825.....			145, 300		11, 085. 00	
1826.....			90, 345		1, 900. 00	
1827.....			124, 565		7, 000. 00	
1828.....			140, 145			
1829.....			287, 210		8, 507. 50	
1830.....			631, 755		11, 350. 00	
1831.....			702, 970		11, 300. 00	
1832.....			787, 435		11, 000. 00	
1833.....			968, 150		10, 400. 00	
1834.....			3, 660, 845		293, 425. 00	
1835.....			1, 857, 670		328, 505. 00	
1836.....			2, 765, 735		1, 369, 965. 00	
1837.....			1, 035, 605		112, 700. 00	
1838.....		72, 000	1, 600, 420		137, 345. 00	
1839.....		382, 480	802, 745		191, 622. 50	
1840.....		473, 380	1, 048, 530		153, 572. 50	
1841.....		656, 310	380, 945		54, 602. 50	
1842.....		1 089, 070	655, 330		85, 007. 50	
1843.....		2, 506, 240	4, 275, 425		1, 327, 132. 50	

ZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES—Continued.

## RECAPITULATION.

SILVER COINAGE.							
Trade dollars.	Dollars.	Half-dollars.	Quarter-dollars.	Twenty cents.	Dimes.	Half-dimes.	Three cents.
.....	\$204, 791	\$161, 572. 00	.....	.....	.....	\$4, 320. 80	.....
.....	72, 920	.....	\$1, 473. 50	.....	\$2, 213. 50	511. 50	.....
.....	7, 776	1, 959. 00	63. 00	.....	2, 526. 10	2, 226. 35	.....
.....	327, 536	.....	.....	.....	2, 755. 00	.....	.....
.....	423, 515	.....	.....	.....	.....	.....	.....
.....	220, 920	.....	.....	.....	2, 176. 00	1, 200. 00	.....
.....	54, 454	15, 144. 50	.....	.....	3, 464. 00	1, 695. 50	.....
.....	41, 650	14, 945. 00	.....	.....	1, 097. 50	650. 50	.....
.....	66, 064	15, 857. 50	.....	.....	3, 304. 00	1, 892. 50	.....
.....	19, 570	78, 259. 50	1, 684. 50	.....	826. 50	.....	.....
.....	321	105, 861. 00	30, 348. 50	.....	12, 078. 00	780. 00	.....
.....	.....	419, 788. 00	51, 531. 00	.....	.....	.....	.....
.....	.....	525, 788. 00	55, 160. 75	.....	16, 500. 00	.....	.....
.....	.....	684, 300. 00	.....	.....	.....	.....	.....
.....	.....	702, 905. 00	.....	.....	4, 471. 00	.....	.....
.....	.....	638, 138. 00	.....	.....	635. 50	.....	.....
.....	.....	601, 822. 00	.....	.....	6, 518. 00	.....	.....
.....	.....	814, 029. 50	.....	.....	.....	.....	.....
.....	.....	620, 951. 50	.....	.....	.....	.....	.....
.....	.....	519, 537. 50	.....	.....	42, 150. 00	.....	.....
.....	.....	.....	17, 308. 00	.....	.....	.....	.....
.....	.....	23, 575. 00	5, 000. 75	.....	.....	.....	.....
.....	.....	607, 783. 50	.....	.....	.....	.....	.....
.....	.....	980, 161. 00	90, 293. 50	.....	.....	.....	.....
.....	.....	1, 104, 000. 00	36, 000. 00	.....	.....	.....	.....
.....	.....	375, 561. 00	31, 861. 00	.....	94, 258. 70	.....	.....
.....	.....	652, 898. 50	54, 212. 75	.....	118, 651. 20	.....	.....
.....	.....	779, 786. 50	16, 020. 00	.....	10, 000. 00	.....	.....
.....	.....	847, 100. 00	4, 450. 00	.....	44, 000. 00	.....	.....
.....	.....	1, 752, 477. 00	.....	.....	.....	.....	.....
.....	.....	1, 471, 583. 00	42, 000. 00	.....	51, 000. 00	.....	.....
.....	.....	2, 002, 090. 00	.....	.....	.....	.....	.....
.....	.....	2, 746, 700. 00	1, 000. 00	.....	121, 500. 00	.....	.....
.....	.....	1, 537, 600. 00	25, 500. 00	.....	12, 500. 00	.....	.....
.....	.....	1, 856, 078. 00	.....	.....	77, 000. 00	61, 500. 00	.....
.....	.....	2, 382, 400. 00	.....	.....	51, 000. 00	62, 000. 00	.....
.....	.....	2, 936, 830. 00	99, 500. 00	.....	77, 135. 00	62, 135. 00	.....
.....	.....	2, 398, 500. 00	80, 000. 00	.....	52, 250. 00	48, 250. 00	.....
.....	.....	2, 603, 000. 00	39, 000. 00	.....	48, 500. 00	68, 500. 00	.....
.....	.....	3, 206, 002. 00	71, 500. 00	.....	63, 500. 00	74, 000. 00	.....
.....	.....	2, 676, 003. 00	488, 000. 00	.....	141, 000. 00	138, 000. 00	.....
.....	1, 000	3, 273, 100. 00	118, 000. 00	.....	119, 000. 00	95, 000. 00	.....
.....	.....	1, 814, 910. 00	63, 100. 00	.....	104, 200. 00	113, 800. 00	.....
.....	.....	1, 773, 000. 00	208, 000. 00	.....	239, 493. 40	112, 750. 00	.....
.....	300	1, 748, 768. 00	122, 786. 50	.....	229, 638. 70	108, 285. 00	.....
.....	61, 005	1, 145, 054. 00	153, 331. 75	.....	253, 358. 00	113, 954. 25	.....
.....	173, 000	355, 500. 00	143, 000. 00	.....	363, 000. 00	98, 250. 00	.....
.....	164, 618	1, 484, 882. 00	214, 250. 00	.....	390, 750. 00	58, 250. 00	.....
.....	165, 190	3, 056, 000. 00	403, 400. 00	.....	152, 000. 00	58, 250. 00	.....



XXXVII.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR ORGANIZATION TO 1899.  
RECAPITULATION.

Calendar year.	GOLD COINAGE.					
	Double-eagles.	Eagles.	Half-eagles.	Three dollars.	Quarter-eagles.	Dollars.
1844 .....	.....	\$1, 250, 610	\$4, 087, 715	.....	\$89, 345. 00	.....
1845 .....	.....	736, 530	2, 743, 640	.....	276, 277. 50	.....
1846 .....	.....	1, 018, 750	2, 736, 155	.....	279, 272. 50	.....
1847 .....	.....	14, 337, 580	5, 382, 685	.....	482, 060. 00	.....
1848 .....	.....	1, 813, 340	1, 863, 560	.....	98, 612. 50	.....
1849 .....	.....	6, 775, 180	1, 184, 645	.....	111, 147. 50	\$936, 789
1850 .....	\$26, 225, 220	3, 489, 510	860, 160	.....	895, 547. 50	511, 301
1851 .....	48, 043, 100	4, 393, 280	2, 651, 955	.....	3, 867, 337. 50	3, 658, 820
1852 .....	44, 860, 520	2, 811, 060	3, 689, 635	.....	3, 283, 827. 50	2, 201, 145
1853 .....	26, 646, 520	2, 522, 530	2, 305, 095	.....	3, 519, 615. 00	4, 384, 149
1854 .....	18, 052, 340	2, 305, 760	1, 513, 235	\$491, 214	1, 896, 397. 50	1, 657, 016
1855 .....	25, 046, 820	1, 487, 010	1, 257, 090	171, 465	600, 700. 00	824, 883
1856 .....	30, 437, 560	1, 429, 900	1, 806, 665	181, 530	1, 213, 117. 50	1, 788, 996
1857 .....	28, 797, 500	481, 060	1, 232, 970	104, 673	796, 235. 00	801, 602
1858 .....	21, 873, 480	343, 210	439, 770	6, 399	144, 082. 50	131, 472
1859 .....	13, 782, 840	253, 930	361, 235	46, 914	142, 220. 00	193, 431
1860 .....	22, 584, 400	278, 830	352, 365	42, 465	164, 360. 00	51, 234
1861 .....	74, 989, 060	1, 287, 330	3, 332, 130	18, 216	3, 241, 295. 00	527, 499
1862 .....	18, 926, 120	234, 950	69, 825	17, 355	300, 882. 50	1, 326, 865
1863 .....	22, 187, 200	112, 480	97, 360	15, 117	27, 075. 00	6, 250
1864 .....	19, 958, 900	60, 800	40, 540	8, 040	7, 185. 00	5, 950
1865 .....	27, 874, 000	207, 050	144, 535	3, 405	62, 302. 50	3, 725
1866 .....	30, 820, 500	237, 800	253, 200	12, 090	105, 175. 00	7, 180
1867 .....	23, 436, 300	121, 400	179, 600	7, 950	78, 125. 00	5, 250
1868 .....	18, 722, 000	241, 550	288, 625	14, 625	94, 062. 50	10, 525
1869 .....	17, 238, 100	82, 850	163, 925	7, 575	84, 612. 50	5, 925
1870 .....	22, 819, 480	164, 430	143, 550	10, 605	51, 387. 50	9, 335
1871 .....	20, 456, 740	254, 650	245, 000	3, 990	68, 375. 00	3, 930
1872 .....	21, 230, 600	244, 500	275, 350	6, 090	52, 575. 00	3, 530
1873 .....	55, 456, 700	173, 680	754, 605	75	512, 562. 50	125, 125
1874 .....	33, 917, 700	799, 270	203, 530	125, 460	9, 850. 00	198, 820
1875 .....	32, 737, 820	78, 350	105, 240	60	30, 050. 00	420
1876 .....	46, 386, 920	104, 280	61, 820	135	23, 052. 50	3, 245
1877 .....	43, 504, 700	211, 490	182, 660	4, 464	92, 630. 00	3, 920
1878 .....	45, 916, 500	1, 031, 440	1, 427, 470	246, 972	1, 160, 650. 00	3, 020
1879 .....	28, 889, 260	6, 120, 320	3, 727, 155	9, 090	331, 225. 00	3, 030
1880 .....	17, 749, 120	21, 715, 160	22, 831, 765	3, 108	7, 490. 00	1, 636
1881 .....	14, 585, 200	48, 796, 250	33, 458, 430	1, 650	1, 700. 00	7, 660
1882 .....	23, 295, 400	24, 740, 640	17, 831, 885	4, 620	10, 100. 00	5, 040
1883 .....	24, 980, 040	2, 595, 400	1, 647, 990	2, 820	4, 900. 00	10, 840
1884 .....	19, 944, 200	2, 110, 800	1, 922, 250	3, 318	4, 982. 50	6, 206
1885 .....	13, 875, 560	4, 815, 270	9, 065, 030	2, 730	2, 217. 50	12, 205
1886 .....	22, 120	10, 621, 600	18, 282, 160	3, 426	10, 220. 00	6, 016
1887 .....	5, 662, 420	8, 706, 800	9, 560, 435	18, 480	15, 705. 00	8, 543
1888 .....	21, 717, 320	8, 030, 310	1, 560, 980	15, 873	40, 245. 00	16, 080
1889 .....	16, 995, 120	4, 298, 850	37, 825	7, 287	44, 120. 00	30, 729
Total .....	1, 070, 645, 400	200, 433, 170	190, 796, 010	1, 619, 376	28, 539, 440. 00	19, 499, 337

ZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES—Continued.

RECAPITULATION.

SILVER COINAGE.							
Trade dollars.	Dollars.	Half-dollars.	Quarter-dollars.	Twenty cents.	Dimes.	Half-dimes.	Three cents.
.....	\$20, 000	\$1, 885, 500. 00	\$290, 300. 00	.....	\$7, 250. 00	\$32, 500. 00	.....
.....	24, 500	1, 341, 500. 00	230, 500. 00	.....	198, 500. 00	78, 200. 00	.....
.....	169, 600	2, 257, 000. 00	127, 500. 00	.....	3, 130. 00	1, 350. 00	.....
.....	140, 750	1, 870, 000. 00	275, 500. 00	.....	24, 500. 00	63, 700. 00	.....
.....	15, 000	1, 880, 000. 00	36, 500. 00	.....	45, 150. 00	63, 400. 00	.....
.....	62, 600	1, 781, 000. 00	85, 000. 00	.....	113, 900. 00	72, 450. 00	.....
.....	47, 500	1, 341, 500. 00	150, 700. 00	.....	244, 150. 00	82, 250. 00	.....
.....	1, 300	301, 375. 00	62, 000. 00	.....	142, 650. 00	82, 050. 00	\$185, 022. 00
.....	1, 100	110, 565. 00	68, 265. 00	.....	196, 550. 00	63, 025. 00	559, 905. 00
.....	46, 110	2, 430, 354. 00	4, 146, 555. 00	.....	1, 327, 301. 00	785, 251. 00	342, 000. 00
.....	33, 140	4, 111, 000. 00	3, 466, 000. 00	.....	624, 000. 00	365, 000. 00	20, 130. 00
.....	26, 000	2, 288, 725. 00	857, 350. 00	.....	207, 500. 00	117, 500. 00	4, 170. 00
.....	63, 500	1, 903, 500. 00	2, 129, 500. 00	.....	703, 000. 00	299, 000. 00	43, 740. 00
.....	94, 000	1, 482, 000. 00	2, 726, 500. 00	.....	712, 000. 00	433, 000. 00	31, 260. 00
.....	.....	5, 998, 000. 00	2, 002, 250. 00	.....	189, 000. 00	258, 000. 00	48, 120. 00
.....	636, 500	2, 074, 000. 00	421, 000. 00	.....	97, 000. 00	45, 000. 00	10, 950. 00
.....	733, 930	1, 032, 850. 00	312, 350. 00	.....	78, 700. 00	92, 950. 00	8, 610. 00
.....	78, 500	2, 078, 950. 00	1, 237, 650. 00	.....	209, 650. 00	164, 050. 00	14, 940. 00
.....	12, 090	802, 175. 00	249, 887. 50	.....	102, 830. 00	74, 627. 50	10, 906. 50
.....	27, 650	709, 830. 00	48, 015. 00	.....	17, 196. 00	5, 923. 00	613. 80
.....	31, 170	518, 785. 00	28, 517. 50	.....	26, 907. 00	4, 523. 50	14. 10
.....	47, 000	593, 450. 00	25, 075. 00	.....	18, 550. 00	6, 675. 00	255. 00
.....	49, 625	899, 812. 50	11, 381. 25	.....	14, 372. 50	6, 536. 25	681. 75
.....	60, 325	810, 162. 50	17, 156. 25	.....	14, 662. 50	6, 431. 25	138. 75
.....	182, 700	769, 100. 00	31, 500. 00	.....	72, 625. 00	18, 295. 00	123. 00
.....	424, 300	725, 950. 00	23, 150. 00	.....	70, 600. 00	21, 930. 00	153. 00
.....	445, 462	829, 758. 50	23, 935. 00	.....	52, 150. 00	26, 830. 00	120. 00
.....	1, 117, 136	1, 741, 655. 00	53, 255. 50	.....	109, 371. 00	82, 493. 00	127. 80
.....	1, 118, 600	866, 775. 00	68, 762. 50	.....	261, 045. 00	189, 247. 50	58. 50
1, 225, 000	296, 600	1, 593, 780. 00	414, 190. 50	.....	443, 329. 10	51, 830. 00	18. 00
4, 910, 000	.....	1, 406, 650. 00	215, 975. 00	.....	319, 151. 70	.....	.....
6, 279, 600	.....	5, 117, 750. 00	1, 278, 375. 00	\$265, 598	2, 406, 570. 00	.....	.....
6, 192, 150	.....	7, 451, 575. 00	7, 839, 287. 50	5, 180	3, 015, 115. 00	.....	.....
13, 092, 710	.....	7, 540, 255. 00	6, 024, 927. 50	102	1, 735, 051. 00	.....	.....
4, 259, 900	22, 495, 550	726, 200. 00	849, 200. 00	120	187, 880. 00	.....	.....
1, 541	27, 560, 100	2, 950. 00	3, 675. 00	.....	1, 510. 00	.....	.....
1, 987	27, 397, 355	4, 877. 50	3, 738. 75	.....	3, 735. 50	.....	.....
960	27, 927, 975	5, 487. 50	3, 243. 75	.....	2, 497. 50	.....	.....
1, 097	27, 574, 100	2, 750. 00	4, 075. 00	.....	391, 110. 00	.....	.....
979	28, 470, 039	4, 519. 50	3, 859. 75	.....	767, 571. 20	.....	.....
.....	28, 136, 875	2, 637. 50	2, 218. 75	.....	393, 134. 90	.....	.....
.....	28, 697, 767	3, 065. 00	3, 632. 50	.....	257, 711. 70	.....	.....
.....	31, 423, 886	2, 943. 00	1, 471. 50	.....	658, 409. 40	.....	.....
.....	33, 611, 710	2, 855. 00	2, 677. 50	.....	1, 573, 838. 90	.....	.....
.....	31, 990, 833	6, 416. 50	306, 708. 25	.....	721, 648. 70	.....	.....
.....	34, 651, 811	6, 355. 50	3, 177. 75	.....	835, 338. 90	.....	.....
35, 965, 924	357, 969, 239	122, 828, 540. 00	38, 834, 265. 00	271, 000	22, 512, 353. 60	4, 880, 219. 40	1, 282, 087. 20

XXXVII.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR ORGANIZATION TO 1843.  
RECAPITULATION.

Calendar years.	MINOR COINAGE.		
	Five cents.	Three cents.	Two cents.
1793-1795.....			
1796.....			
1797.....			
1798.....			
1799.....			
1800.....			
1801.....			
1802.....			
1803.....			
1804.....			
1805.....			
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1832.....			
1833.....			
1834.....			
1835.....			
1836.....			
1837.....			
1838.....			
1839.....			
1840.....			
1841.....			
1842.....			
1843.....			



ZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES—Continued.

## RECAPITULATION.

MINOR COINAGE.		TOTAL COINAGE.			
Cents.	Half cents.	Gold.	Silver.	Minor.	Total.
\$10,660.33	\$712.67	\$71,485.00	\$370,683.80	\$11,373.00	\$453,541.80
9,747.00	577.40	77,960.00	77,118.50	10,324.40	165,402.90
8,975.10	535.24	128,190.00	14,550.45	9,510.34	152,250.79
9,797.00	-----	205,610.00	330,291.00	9,797.00	545,698.00
9,045.85	60.83	213,285.00	423,515.00	9,106.68	645,906.68
28,221.75	1,057.65	317,760.00	224,296.00	29,279.40	571,335.40
13,628.37	-----	422,570.00	74,758.00	13,628.37	510,956.37
34,351.00	71.83	423,310.00	58,343.00	34,422.83	516,075.83
24,713.53	489.50	258,377.50	87,118.00	25,203.03	370,698.53
7,568.38	5,276.56	258,642.50	100,340.50	12,844.94	371,827.94
9,411.16	4,072.32	170,367.50	149,388.50	13,483.48	333,239.48
3,480.00	1,780.00	321,505.00	471,319.00	5,260.00	801,084.00
7,272.21	2,380.00	437,495.00	597,448.75	9,652.21	1,044,595.96
11,090.00	2,000.00	284,665.00	684,300.00	13,090.00	982,055.00
2,228.67	5,772.86	169,375.00	707,376.00	8,001.53	884,752.53
14,585.00	1,075.00	501,435.00	638,773.50	15,660.00	1,155,868.50
2,180.25	315.70	497,905.00	608,340.00	2,495.95	1,108,740.95
10,755.00	-----	290,435.00	814,029.50	10,755.00	1,115,219.50
4,180.00	-----	477,140.00	620,951.50	4,180.00	1,102,271.50
3,578.30	-----	77,270.00	561,687.50	3,578.30	642,535.80
-----	-----	3,175.00	17,308.00	-----	20,483.00
28,209.82	-----	-----	28,575.75	28,209.82	56,785.57
39,481.00	-----	-----	607,783.50	39,481.00	647,267.50
31,670.00	-----	242,940.00	1,070,451.50	31,670.00	1,345,061.50
26,710.00	-----	258,615.00	1,140,000.00	26,710.00	1,425,325.00
44,075.50	-----	1,319,030.00	501,680.70	44,075.50	1,864,786.20
3,890.00	-----	189,325.00	825,762.45	3,890.00	1,018,977.45
20,723.39	-----	88,980.00	805,803.50	20,723.39	915,509.89
-----	-----	72,425.00	895,550.00	-----	967,975.00
12,620.00	-----	93,200.00	1,752,477.00	12,620.00	1,858,297.00
14,611.00	315.00	156,385.00	1,564,583.00	14,926.00	1,735,894.00
15,174.25	1,170.00	92,245.00	2,002,090.00	16,344.25	2,110,679.25
23,577.32	-----	131,565.00	2,869,200.00	23,577.32	3,024,342.32
22,606.24	3,030.00	140,145.00	1,575,600.00	25,636.24	1,741,381.24
14,145.00	2,435.00	295,717.50	1,994,578.00	16,580.00	2,306,875.50
17,115.00	-----	643,105.00	2,495,400.00	17,115.00	3,155,620.00
33,592.60	11.00	714,270.00	3,175,600.00	33,603.60	3,923,473.60
23,620.00	-----	798,435.00	2,579,000.00	23,620.00	3,401,055.00
27,390.00	770.00	978,550.00	2,759,000.00	28,160.00	3,765,710.00
18,551.00	600.00	3,954,270.00	3,415,002.00	19,151.00	7,388,423.00
38,784.00	705.00	2,186,175.00	3,443,003.00	39,489.00	5,668,667.00
21,110.00	1,990.00	4,135,700.00	3,606,100.00	23,100.00	7,764,900.00
55,583.00	-----	1,148,305.00	2,096,010.00	55,583.00	3,299,898.00
63,702.00	-----	1,809,765.00	2,333,243.40	63,702.00	4,206,710.40
31,286.61	-----	1,376,847.50	2,209,778.20	31,286.61	3,617,912.31
24,627.00	-----	1,675,482.50	1,726,703.00	24,627.00	3,426,812.50
15,973.67	-----	1,091,857.50	1,132,750.00	15,973.67	2,240,581.17
23,833.90	-----	1,829,407.50	2,332,750.00	23,833.90	4,185,991.40
24,283.20	-----	8,103,797.50	3,834,750.00	24,283.20	11,967,830.70

XXXVII.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR ORGANIZATION TO 1890.  
RECAPITULATION.

Calendar years.	MINOR COINAGE.		
	Five cents.	Three cents.	Two cents.
1844.....			
1845.....			
1846.....			
1847.....			
1848.....			
1849.....			
1850.....			
1851.....			
1852.....			
1853.....			
1854.....			
1855.....			
1856.....			
1857.....			
1858.....			
1859.....			
1860.....			
1861.....			
1862.....			
1863.....			
1864.....			\$396,950.00
1865.....		\$341,460.00	272,800.00
1866.....	\$737,125.00	144,030.00	63,540.00
1867.....	1,545,475.00	117,450.00	58,775.00
1868.....	1,410,850.00	97,560.00	56,075.00
1869.....	819,750.00	48,120.00	30,930.00
1870.....	240,300.00	40,050.00	17,225.00
1871.....	28,050.00	18,120.00	14,425.00
1872.....	301,800.00	25,860.00	1,300.00
1873.....	227,500.00	35,190.00	
1874.....	176,900.00	23,700.00	
1875.....	104,850.00	6,840.00	
1876.....	126,500.00	4,860.00	
1877.....			
1878.....	117.50	70.50	
1879.....	1,455.00	1,236.00	
1880.....	997.75	748.65	
1881.....	3,618.75	32,417.25	
1882.....	573,830.00	759.00	
1883.....	1,148,471.05	318.27	
1884.....	563,697.10	169.26	
1885.....	73,821.50	143.70	
1886.....	166,514.50	128.70	
1887.....	763,182.60	238.83	
1888.....	536,024.15	1,232.49	
1889.....	794,068.05	646.83	
Total .....	10,374,900.95	941,349.48	912,020.00

## ZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES—Continued.

## RECAPITULATION.

MINOR COINAGE.		TOTAL COINAGE.			
Cents.	Half cents.	Gold.	Silver.	Minor.	Total.
\$23, 987. 52	-----	\$5, 427, 670. 00	\$2, 235, 550. 00	\$23, 987. 52	\$7, 687, 207. 52
38, 948. 04	-----	3, 756, 447. 50	1, 873, 200. 00	38, 948. 04	5, 668, 595. 54
41, 208. 00	-----	4, 034, 177. 50	2, 558, 580. 00	41, 208. 00	6, 633, 965. 50
61, 836. 69	-----	20, 202, 325. 00	2, 374, 450. 00	61, 836. 69	22, 638, 611. 69
64, 157. 99	-----	3, 775, 512. 50	2, 040, 050. 00	64, 157. 99	5, 879, 720. 49
41, 785. 00	\$199. 32	9, 007, 761. 50	2, 114, 950. 00	41, 981. 32	11, 164, 695. 82
44, 268. 44	199. 06	31, 981, 738. 50	1, 866, 100. 00	44, 467. 50	33, 892, 306. 00
98, 897. 07	738. 36	62, 614, 492. 50	774, 397. 00	99, 635. 43	63, 488, 524. 93
50, 630. 94	-----	56, 846, 187. 50	999, 410. 00	50, 630. 94	57, 896, 228. 44
66, 411. 31	648. 47	39, 377, 909. 00	9, 077, 571. 00	67, 059. 78	48, 522, 539. 78
42, 361. 56	276. 79	25, 915, 962. 50	8, 619, 270. 00	42, 638. 35	34, 577, 870. 85
15, 748. 29	282. 50	29, 387, 968. 00	3, 501, 245. 00	16, 030. 79	32, 905, 243. 79
26, 904. 63	202. 15	36, 857, 768. 50	5, 142, 240. 00	27, 106. 78	42, 027, 115. 28
177, 834. 56	175. 90	32, 214, 040. 00	5, 478, 760. 00	178, 010. 46	37, 870, 810. 46
246, 000. 00	-----	22, 938, 413. 50	8, 495, 370. 00	246, 000. 00	31, 679, 783. 50
364, 000. 00	-----	14, 780, 570. 00	3, 284, 450. 00	364, 000. 00	18, 429, 020. 00
205, 660. 00	-----	23, 473, 654. 00	2, 259, 390. 00	205, 660. 00	25, 538, 704. 00
101, 000. 00	-----	83, 395, 530. 00	3, 783, 740. 00	101, 000. 00	87, 280, 270. 00
280, 750. 00	-----	29, 875, 997. 50	1, 252, 516. 50	280, 750. 00	22, 409, 264. 00
498, 400. 00	-----	22, 445, 482. 00	809, 267. 80	498, 400. 00	23, 753, 149. 80
529, 737. 14	-----	20, 081, 415. 00	609, 917. 10	926, 687. 14	21, 618, 019. 24
354, 192. 86	-----	28, 295, 107. 50	691, 005. 00	968, 552. 86	29, 954, 665. 36
98, 265. 00	-----	31, 435, 945. 00	982, 409. 25	1, 042, 960. 00	33, 461, 314. 25
98, 210. 00	-----	23, 828, 625. 00	908, 876. 25	1, 819, 910. 00	26, 557, 411. 25
102, 665. 00	-----	19, 371, 387. 50	1, 074, 343. 00	1, 697, 150. 00	22, 142, 880. 50
64, 200. 00	-----	17, 582, 987. 50	1, 260, 143. 00	963, 000. 00	19, 812, 130. 50
52, 750. 00	-----	23, 198, 787. 50	1, 378, 255. 50	350, 325. 00	24, 927, 368. 00
39, 295. 00	-----	21, 032, 685. 00	3, 104, 038. 30	99, 890. 00	24, 236, 613. 30
40, 420. 00	-----	21, 812, 645. 00	2, 504, 488. 50	369, 380. 00	24, 686, 513. 50
116, 765. 00	-----	57, 022, 747. 50	4, 024, 747. 60	379, 455. 00	61, 426, 950. 10
141, 875. 00	-----	35, 254, 630. 00	6, 851, 776. 70	342, 475. 00	42, 448, 881. 70
135, 280. 00	-----	32, 951, 940. 00	15, 347, 893. 00	246, 970. 00	48, 546, 803. 00
79, 440. 00	-----	46, 579, 452. 50	24, 503, 307. 50	210, 800. 00	71, 293, 560. 00
8, 525. 00	-----	43, 999, 864. 00	28, 393, 045. 50	8, 525. 00	72, 401, 434. 50
57, 998. 50	-----	49, 786, 052. 00	28, 518, 850. 00	58, 186. 50	78, 363, 088. 50
162, 312. 00	-----	39, 080, 080. 00	27, 569, 776. 00	165, 003. 00	66, 814, 859. 00
389, 649. 55	-----	62, 308, 279. 00	27, 411, 693. 75	391, 395. 95	90, 111, 368. 70
392, 115. 75	-----	96, 850, 890. 00	27, 940, 163. 75	428, 151. 75	125, 219, 205. 50
385, 811. 00	-----	65, 887, 685. 00	27, 973, 132. 00	960, 400. 00	94, 821, 217. 00
455, 981. 09	-----	29, 241, 990. 00	29, 246, 968. 45	1, 604, 770. 41	60, 093, 728. 86
232, 617. 42	-----	23, 991, 756. 50	28, 534, 866. 15	796, 483. 78	53, 323, 106. 43
117, 653. 84	-----	27, 773, 012. 50	28, 962, 176. 20	191, 622. 04	56, 926, 810. 74
176, 542. 90	-----	28, 945, 542. 00	32, 086, 709. 90	343, 186. 10	61, 375, 438. 00
452, 264. 83	-----	23, 972, 383. 00	35, 191, 081. 40	1, 215, 686. 26	60, 379, 150. 66
374, 944. 14	-----	31, 380, 808. 00	33, 025, 606. 45	912, 200. 78	65, 318, 615. 23
488, 693. 61	-----	21, 413, 931. 00	35, 496, 683. 15	1, 283, 408. 49	58, 194, 022. 64
8, 981, 512. 07	38, 926. 11	1, 511, 532, 733. 00	584, 543, 628. 20	21, 249, 708. 61	2, 117, 326, 069. 81





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